

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK**

**IN RE: METHYL TERTIARY BUTYL
ETHER (“MTBE”) PRODUCTS
LIABILITY LITIGATION**

**Master File No. 1:00–1898
MDL 1358 (SAS)
M 21-88**

This document relates to:

*City of Merced Redevelopment Agency v. Exxon
Mobil Corp., et al.*, 08 Civ. 06306 (SAS)

**DECLARATION OF DUANE C. MILLER IN SUPPORT OF
PLAINTIFF CITY OF MERCED REDEVELOPMENT AGENCY’S
OPPOSITION TO DEFENDANTS’ MOTION FOR PARTIAL SUMMARY JUDGMENT
RE NUISANCE AND TRESPASS
[EXHIBITS 19 -48]**

I, Duane C. Miller, hereby declare:

1. I am one of the attorneys in this case for plaintiff City of Merced Redevelopment Agency. I have been personally involved in much of the discovery and pretrial proceedings in this action. This Declaration is based on my personal knowledge and, if called as a witness, I could testify competently thereto.

2. Attached hereto as Exhibit 1 is a true and correct copy of excerpts from the deposition of J.P. Randhawa taken on August 26, 2009.

3. Attached hereto as Exhibit 2 is a true and correct copy of relevant portions from the Expert Report of Marcel Moreau dated April 11, 2011.

4. Attached hereto as Exhibit 3 is a true and correct copy of the declaration of Alexander Blagojevic taken on May 4, 2000.

5. Attached hereto as Exhibit 4 is a true and correct copy of an Email dated May 13, 1998, from C. Stanley to C. Parkinson.

6. Attached hereto as Exhibit 5 is a true and correct copy of excerpts from the May 6, 1999, deposition of Curt Stanley, taken in *South Lake Tahoe Public Utility District v. Atlantic Richfield Company, et al.*

7. Attached hereto as Exhibit 6 is a true and correct copy of an Internal ARCO Memo dated March 31, 1981, from R.N. Roth to MTBE File.

8. Attached hereto as Exhibit 7 is a true and correct copy of excerpts from the Ben Thomas deposition taken on November 15, 2000, in *South Lake Tahoe Public Utility District v. Atlantic Richfield Company, et al.*

9. Attached hereto as Exhibit 8 is a true and correct copy of a letter dated October

17, 2005, from W. Hughes to R. Greenwald.

10. Attached hereto as Exhibit 9 is a true and correct copy of a letter dated October 17, 2005, from P. Condrón to R. Greenwald.

11. Attached hereto as Exhibit 10 is a true and correct copy of a letter dated September 15, 2005, from T. Renfroe to R. Greenwald.

12. Attached hereto as Exhibit 11 is a true and correct copy of a Memo dated June 18, 1984, from S. Cragg, API, to MTBE Task Force.

13. Attached hereto as Exhibit 12 is a true and correct copy of ARCO Chemical Company Internal Correspondence dated June 14, 1984, from B. Hoover to S. Ridlon.

14. Attached hereto as Exhibit 13 is a true and correct copy of Hydrocarbons and Organic Chemicals in Groundwater - Prevention, Detection and Restoration, dated November 12-14, 1986.

15. Attached hereto as Exhibit 14 is a true and correct copy of excerpts from the Valero Corporate Representative Deposition, Early Knowledge and Taste & Odor Issues.

16. Attached hereto as Exhibit 15 is a true and correct copy of excerpts from the deposition of Joel Masticelli taken July 26, 2000, in *South Tahoe Public Utility District*.

17. Attached hereto as Exhibit 16 is a true and correct copy of a Memorandum dated June 11, 1986, to O.T. Buffalow, San Francisco, CA, from D.W. Callahan.

18. Attached hereto as Exhibit 17 is a true and correct copy of a Memorandum re MTBE dated December 30, 1986.

19. Attached hereto as Exhibit 18 is a true and correct copy of Ultramar Material Safety Data Sheet dated June 30, 1994.

20. Attached hereto as Exhibit 19 is a true and correct copy of an August 12, 1991, Memorandum, TIP Letter #237, MTBE Effects [CHEV 09564-09567.]

21. Attached hereto as Exhibit 20 is a true and correct copy of Memorandum, Chemical Entry Review for MTBE, dated March 26, 1991.

22. Attached hereto as Exhibit 21 is a true and correct copy of an Email from C. Stanley to D. McGill dated July 14, 1993.

23. Attached hereto as Exhibit 22 is a true and correct copy of Memo re MTBE in Ground Water Issue dated April 27, 1995.

24. Attached hereto as Exhibit 23 is a true and correct copy of an Email dated May 14, 1998, from C. Stanley to K. Bell.

25. Attached hereto as Exhibit 24 is a true and correct copy of an Email dated November 3, 1998, from C. Stanley to J. Pedley.

26. Attached hereto as Exhibit 25 is a true and correct copy of MTBE Release Source Identification at Marketing Sites dated March 30, 1999.

27. Attached hereto as Exhibit 26 is a true and correct copy of an email dated January 20, 1999, from Hugh Dickey to multiple recipients attaching "Solving Problems from MTBE Contamination - It's Not Just Regulating Underground Tanks."

28. Attached hereto as Exhibit 27 is a true and correct copy of an Email dated February 2, 1999, from C. Stanley to F. Benton.

29. Attached hereto as Exhibit 28 is a true and correct copy of an Email dated May 29, 1998, from G. Marshall to C. Stanley.

30. Attached hereto as Exhibit 29 is a true and correct copy of an Email dated March

12, 1999, from G. Marshall to C. Stanley.

31. Attached hereto as Exhibit 30 is a true and correct copy of a June 25, 1996, Letter from P. Pugnale, Shell Oil Company, to R. Ghirelli, California Regional Water Quality Control Board.

32. Attached hereto as Exhibit 31 is a true and correct copy of a letter dated September 29, 1997, from C.E. Flanikan, Ultramar, to California Environmental Protection Agency with attachment.

33. Attached hereto as Exhibit 32 is a true and correct copy of excerpts from the deposition of Arvel Shackelford taken May 18, 2009, in *City of Merced*.

34. Attached hereto as Exhibit 33 is a true and correct copy of excerpts from the deposition of Robert C. Donovan taken August 31, 2000, in *South Tahoe Public Utility District*.

35. Attached hereto as Exhibit 34 is a true and correct copy of a letter dated October 17, 2005, from Diana Pfeffer Martin to Robin Greenwald.

36. Attached hereto as Exhibit 35 is a true and correct copy of 1988 Health & Environmental Project Proposals.

37. Attached hereto as Exhibit 36 is a true and correct copy of excerpts from the deposition of Brian Pazin taken on August 25, 2009, in *City of Merced*.

38. Attached hereto as Exhibit 37 is a true and correct copy of American Petroleum Institute Memorandum dated February 16, 1988, from David Chen.

39. Attached hereto as Exhibit 38 is a true and correct copy of relevant portions of the First Amended Complaint filed on March 4, 2013.

40. Attached hereto as Exhibit 39 is a true and correct copy of Minutes for the Public

Focus Meeting dated December 17, 1986.

41. Attached hereto as Exhibit 40 is a true and correct copy of a Memorandum dated February 13, 1987, to O.B. Smith.

42. Attached hereto as Exhibit 41 is a true and correct copy of a Memorandum dated January 8, 1987, to Bob Drew from Judy Shaw.

43. Attached hereto as Exhibit 42 is a true and correct copy of a letter dated February 12, 1987, to Beth Anderson.

44. Attached hereto as Exhibit 43 is a true and correct copy of a letter dated February 27, 1987, to Beth Anderson.

45. Attached hereto as Exhibit 44 is a true and correct copy of a 1988 Health & Environmental Project Proposal.

46. Attached hereto as Exhibit 45 is true and correct copy of the relevant portion of Expert Report of Marcel Moreau dated April 11, 2011, section III.

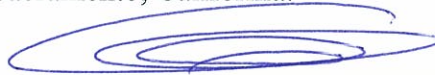
47. Attached hereto as Exhibit 46 is a true and correct copy of Cracker Barrel Meeting Remarks dated January 1995.

48. Attached hereto as Exhibit 47 is a true and correct copy of excerpts from the deposition of Richard Pazin taken on August 24, 2009, in *City of Merced*.

49. Attached hereto as Exhibit 48 is a true and correct copy of relevant portions of Supplement Response of ExxonMobil Corporation to Special Interrogatories Set Three dated September 15, 2010.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 29th day of April, 2013, at Sacramento, California.



DUANE C. MILLER

EXHIBIT 19

MEMORANDUM

San Francisco, CA
August 12, 1991TIP Letter # 237
MTBE Effects

REGIONAL MANAGERS:

As you all know Methyl-tertiary-butyl-ether (MTBE) is widely used in gasoline throughout our distribution network. The oxygenated fuel requirements in the recent reauthorization of the federal Clean Air Act will only increase the use of MTBE and its concentration in our gasolines. In light of this, we thought it prudent to pass on some facts concerning the potential effects, both environmental and budgetary, of a spill or leak of gasoline containing MTBE into the groundwater. This information may help you to prioritize sites due for UST upgrades (ie. spill containment, release detection, etc.).

Typically, benzene is the component that determines the extent of a dissolved hydrocarbon plume and is the component with the most stringent cleanup standards. While benzene concentrations in the groundwater are the driving force for most cleanups, benzene is relatively easy to remove by carbon adsorption or air stripping and it will naturally biodegrade in most subsurface environments.

MTBE on the other hand is a different situation. The solubility of benzene in water is 1,800 parts per million (ppm), while the solubility of MTBE in water is 43,000 ppm! The dissolved plume that results from a leak into groundwater is directly related to the solubility in water of the chemical. The higher the solubility the larger the plume and the faster it will migrate.

When MTBE gets into the water then the trouble really starts. Removal of a compound by air stripping is governed by the Henry's Law constant; the constant for MTBE is 1/7 that of benzene; the biodegradation of MTBE is 1/5 that of benzene; the carbon adsorption of MTBE is 1/5 that of benzene. MTBE has two additional characteristics that only exacerbate the problem. Dissolved benzene transport in water is retarded due to adsorption; MTBE transport is not significantly slowed since it does not adsorb to soil as well. Water containing over 1,500 ppm of MTBE is flammable and can lead to explosive vapors. Attached you will find a summary of MTBE properties provided by R.J. Hinds of CRTC.

CONFIDENTIAL: This document is subject to the
September 21, 1999 Stipulated Protective Order entered
San Francisco Superior Court, Case No. 999128.

CHEV 09564

As you can see, a groundwater cleanup where MTBE is present has the potential to be 2-3 times as expensive as our present groundwater cleanups. The resulting plume will be much larger and the removal of MTBE is very difficult at best.

Our highest degree of concern right now is with service stations without spill containment manholes that are, or will be, served by racks that are blending MTBE. The combination of MTBE gasoline being delivered, the lack of spill containment manholes, and shallow groundwater could be tremendously expensive for us in the long run. As they say, an ounce of prevention is worth a pound of cure, and in this case prevention is certainly prudent.

J.L.KOERBER

JK

DJL/

cc. A.M. Caccamo
D.N. Perkins
J.L. Pease
R.J. Rinds
Compliance Specialists
TIP Coordinators
Env. Engineering Supervisors
H.W. Riggs

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September 21, 1999 Stipulated Protective Order entered
in the San Francisco Superior Court, Case No. 999128.

CHEV 09585

EXHIBIT 20

MEMORANDUM

Mr. E. Bayart

Mr. L. L. Long

Mr. C. R. Kerr (Southwest Region, Marketing)

F 9/1021

MDA

#741

March 26, 1991

You may be interested
in these documents, whichCHEMICAL ENTRY REVIEW
FOR MTBETurman Foster (Northwest
Region Gas Mgr.) requestedA. L. Perkins: from Salt Lake Refinery. 2-Fluorobenzene
4-12-91

I have completed the environmental group's portion of the chemical entry review for MTBE. Bill Davis has previously completed his Safety Review. I will include a copy of this memo with the chemical review materials that still must be reviewed by Earl Shirts before they are returned to Bill Davis and then to you.

We understand that you are preparing for possible entry of MTBE into the refinery (or marketing) and simply wanted to develop our concerns for using this material. Whether the facilities are installed by marketing or the refinery, our concerns listed below are the same, especially since we currently treat marketing's waste water and have some responsibilities for fighting fires at the marketing terminal.

Bill Davis and I have signed the chemical entry review sheet allowing MTBE entry into the refinery subject to the following conditions:

1. Meet Bill Davis' safety concerns (attached).
2. Meet the following environmental concerns.
 - A. Spills or leaks of MTBE must be contained and prevented from contacting the ground or entering the waste water drainage system. This requirement includes above-ground impoundments at the unloading area to prevent hose disconnection spills. Sample stations also need to be engineered to prevent spills. Impoundments should be sealed like our hazardous waste pad.
 - B. Contaminated soil or water that has contacted MTBE or other oxygenates will likely be a hazardous waste because of the low flash points. Proper disposal procedures should be established and published.
 - C. Tanks containing MTBE should have double bottoms and leak detection systems.
 - D. Provide proper facilities for shutdowns and tank cleaning to prevent any MTBE from being spilled or washing into the drainage system.
 - E. Complete a HAZOP study on the planned facilities

CH 007163

during the design phase of the project. Safety and environmental concerns should be included in this study.

The attached memo from the El Segundo environmental group discusses the environmental effects of MTBE and Methanol. These chemicals are different than any other stocks that we have handled in the refinery before and consideration needs to be given towards mitigation of extreme environmental risks.

I will pass this information on to Earl Shirts for his review. Please see me if you have any questions.

Jeff Johns

Attachments

CC: RER, MGE, MDH, TJF, JWJ, SLR, MRB, WRD, MLP

CH 00716

EXHIBIT 21

êMSG FROM: WH889CCS--VM19 TO: MK59MDM--VM01
To: MK59MDM --VM01

07/15/93 07:28:39

*** Reply to note of 07/14/93 19:23
Curtis C. Stanley
Staff Hydrogeologist - Environmental RD&T
Subject: Bolsa Chica @ Edinger, Huntington Beach

Sounds like you guys are covering the bases as best as you can. We need to convince management to implement dual containment NOW!

Curtis C. Stanley
Staff Hydrogeologist - Environmental RD&T
Profs Nickname: HYDRO1 Location: WRC ET-102
Bell: 493-7675 SSN: 433-7675
yyôôôôBolsa Chica @ Edinger, Huntington Beach
êMSG FROM: MK59MDM --VM01 TO: WH889CCS--VM19
To: WH889CCS--VM19

07/14/93 19:23:54

*** Reply to note of 07/14/93 08:32
From: DAN MCGILL, MDM1
Subject: Bolsa Chica @ Edinger, Huntington Beach
The tanks were single wall with single wall lines (two of the lines were also leaking under the dispensers). We need some help out here... this stuff is going to greatly increase the cost of our clean-ups. The one good note is that MTBE is acting as a tracer for leaks - this is the second time that our lab data has indicated that we we having an on going release. Our lab "screens" all of our groundwater samples for MTBE and gives me a call if MTBE shows up some where we have not seen it before.

cc: MK40PJP --VM01 P J PUGNALE

M. DANIEL MCGILL
ENVIRONMENTAL ENGINEER
ANAHEIM, CALIFORNIA
SSN 520-3370

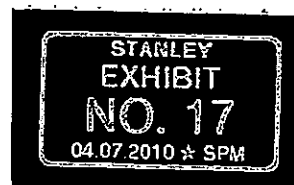
yyôôôôBolsa Chica @ Edinger, Huntington Beach
êMSG FROM: WH889CCS--VM19 TO: WH889ALO--VM19
To: WH889ALO--VM19 A L OTERMAT

07/15/93 11:22:36

Curtis C. Stanley
Staff Hydrogeologist - Environmental RD&T
Subject: Tech. Assurance Paragraph for Waste Site Manager's Meeting

Per Environmental RD&T's technical assurance role in Product's, a draft paper describing componenets for achieving technical assurance at waste sites was presented. Copies of this document will be distributed to all waste site managers for comments. A key component for technical assurance is based around waste site technical teams on higher priority sites. These teams will function in much the same way that groundwater teams work at manufacturing locations. Comments will be reviewed at the next Waste Sites Team Meeting and a final document will then be prepared.

Curtis C. Stanley
Staff Hydrogeologist - Environmental RD&T
Profs Nickname: HYDRO1 Location: WRC ET-102
Bell: 493-7675 SSN: 433-7675



EQWHCS-E 0252400

EXHIBIT 22

To Busch J6K

Jim Stambolis: This is marketing's
response to DSD. Tell details with

San Francisco, CA you later this week
April 27, 1995

Thanks.

Mark

5/2/95

CONFIDENTIAL

REC'D

MDK

J6K

MTBE IN GROUND WATER ISSUE

MR. D.J. O'REILLY:

This memo is in response to a note you wrote on a recent memo sent to you (plus Mr. K.T. Dorr and Mr. J.N. Sullivan) from Mr. R.L. Hartung regarding Methyl Tert Butyl Ether (MTBE) contamination of ground water. You asked Mr. B.D. Frolich and me if we were concerned and if any action was needed (memo attached for your convenience). This response was developed by Product Engineering in consultation with the Marketing Environmental, Health, and Safety team, the Alternative Fuels group, Public Affairs, and Chevron Research and Technology Company (CRTC).

Mr. Hartung's memo included a report by the United States Geological Survey (USGS) that summarized MTBE properties, sources, fate in the environment, and the discovery of MTBE in shallow ground water (mostly in urban areas). The USGS report did not include data regarding MTBE contamination in the deeper ground water used for drinking water, but stated that, "... there are few data showing concentrations of MTBE at these deeper depths." It is not clear what risk exists for MTBE transport from shallow groundwater to deeper ground water used as drinking water. The American Petroleum Institute (API) developed a response-only document in connection with the USGS report (attached). The API document quotes a regional EPA administrator as saying, "The concentrations (of MTBE) you find are substantially below anything that we would remotely consider a human health risk."

The USGS report points out that gasoline blended with MTBE may pose a greater risk to drinking water than non-oxygenated gasoline, because MTBE is soluble in water, plus it resists soil filtration and decay compared to other gasoline components. These concerns are not new, as Marketing raised the same issues ten years ago in connection with the Tank Integrity Program. Marketing does not believe that the urban shallow-ground-water MTBE contamination described in the USGS report is an urgent or significant threat to public health.

CONFIDENTIAL: This document is subject to the September 1994 updated Protective Order entered by the San Francisco Superior Court, Case No. 889128.

CHEV 05693

USDA REFINING 175 SE

05/02/95 12:41 PM 415 884 0001

Mr. D.J. O'Reilly
4/27/85
Page 2

It is not yet clear what impact the MTBE-in-groundwater issue will have on the ongoing efforts of some to restrict the use of MTBE in gasoline. Although the early media interest in the USGS report has been light, connecting a potential water pollution problem to MTBE in addition to the alleged health problems may make it even more difficult for environmentalists to support MTBE.

Marketing believes that the MTBE in groundwater issue is just one more additional justification for the large Marketing capital investment in avoiding terminal and service station leaks and spills. While the USGS report will be used by anti-MTBE organizations, we do not currently expect the report to generate substantial additional interest in regulating or restricting MTBE use in gasoline in the short term.

In Mr. Hartung's memo, he mentions that ARCO announced that it is embarking on their own MTBE/groundwater test program, and that ARCO encouraged others to do independent testing on their own areas of concern. ~~We do not recommend that Chevron begin a groundwater testing program for MTBE.~~ The Alternative Fuels group and CRTC will take the lead roles monitoring the MTBE-in-groundwater issue, and inform you of significant future developments.

Please contact me if you have any questions.


D.C. SMITH

Attachments

cc:	B.D. Frolich	J.B. Krider
	R.E. Zalesky	F. Sam
	R.M. Wilkenfeld	C.L. Blackwell
	L.S. Shushan	

CONFIDENTIAL: This document is subject to the September 1994 stipulated Protective Order entered by the San Francisco Superior Court, Case No. 899128.

CHEV 05694

EXHIBIT 23

Legal Retention at MSXSOC

From: Stanley CC (Curtis) at MSXWHWTC
 Sent: Thursday, May 14, 1998 10:25 AM
 To: Bell, Kathy; Boschetto, Brad; Broussard, Gweneyette; Chiang, Chen; Chou, Chi-su; Daly, Phil; Darmer, Ken; Dedoes, Robert; Deeley, George; Devaul, George; Dinkfeld, Edward; Dorn, Phil; Dove, John; Eltinger, Robert; Farrier, Daniel; Franceschini, Timothy; Gallagher, Michael; Gilmore, Kathleen; Green, Tom; Hansen, Erik; Hastings, Robert; Hong, Marjorie; Hsu, Ed; Ivie, Jerry; Jacobs, Joe; Krewinghaus, Bruce; Lewis, Richard; Lieder, Chuck; Lyons, Karen; Marshall, Glen; Miller, Jim; Miller, Jonathan; Neaville, Chris; Otermat, Art; Pugnale, Pete; Register, Allen; Rhodes, Ileana; Salanitro, Joe; Schroder, Richard; Sepest, John; SHELTON, CHARLES; Spinelle, John; Spinnler, Gerard; Springer, Ken; Stearns, Steve; Sun, Paul; White, Christine
 Cc: Gustafson JB at SHELL RESEARCH THORNTON; Parkinson CD (Chris) at OPC
 Subject: FW: MTBE CONTAMINATION

This article highlights the issue around leak detection and backs up our research that extremely small releases can cause groundwater problems. I think that this issue may cause us to reevaluate how we do leak detection in environmentally sensitive areas

Curtis C. Stanley

Environmental Technology Directorate - Soil and Groundwater

Westhollow Technology Center

(phone-@2) 281-544-7675 (fax-@) 281-544-8727

e-mail: ccstanley@shellus.com

(This communication per applicable agreements between our respective companies.)

-----Original Message-----

From: Judy Shaw [SMTP:shaw@api.org] <mailto:[SMTP:shaw@api.org]>
 Sent: Thursday, May 14, 1998 7:55 AM
 To: Al Jessel; Brian Hamey; Carol Fairbrother; Curt Stanley; Dave Peirce; David Smith; Don Gilson; Eric Vogt; Gene Mancini; Georgia Callahan; Gerry Raabe; Gweneyette Broussard; James Rocco; Jeff Sickenger; Jim Ford; Jim Stevenson; John Taunton; Lee Hoffman; Mark Saperstein; Mary Kate Kell; Mike Wang; Ned Seppi; Ron Benton; Tim Buscheck; William Doyle
 Cc: Alexis Steen; Bill Bush; Bill Frick; Bob Greco; Bruce Bauman; Carol Henry; Chuck Krambuhl; David Deal; David Lax; Debi Tufou; Dee Gavora; Eldon Rucker; Howard Feldman; Jim Williams (MDM); Karen Inman; Kim Ashton; Larry Magni; Marc Meteyer; Martha Jordan; Molly Sinclair; Rick Brown; Robert Barter; Ron Chittim; Theresa Pugh; Tom Lareau; Valerie Ughetta
 Subject: FW: MTBE CONTAMINATION

FYI, more info on Maine. Judy

> -----
 > From: Bruce Bauman
 > Sent: Wednesday, May 13, 1998 3:21 PM
 > To: Kim Ashton; Judy Shaw; Robert Barter; Molly Sinclair
 > Cc: Creg Smith; Larry Magni; Denise McCourt
 > Subject: RE: MTBE CONTAMINATION
 >
 > Here are links to the Monday and Tuesday articles if you want any gory
 > details. Look like they will have fun with this one.
 > The Monday article notes that this is a new gas station that just
 > opened in July 1997, so this incident, if tied to this facility, will
 > likely raise questions (again) about the adequacy of fully upgraded
 > USTs and their leak detection systems to prevent releases and to
 > detect them properly. It seems this release was only detected through
 > some on-site wells drilled for a proposed property transfer.
 >
 >
 > <http://www.portland.com/moneews/story3.htm>
 >
 > <http://www.portland.com/tunews/story5.htm>
 >

SH 032805

EXHIBIT 24

Legal Retention at MSXSOC

From: Stanley CC (Curtis) at MSXWHWTC
 Sent: Tuesday, November 03, 1998 12:21 AM
 To: Pedley JF (Joanna) at MSXWHWTC; Benton F R [Newcos]
 Cc: Mcarragher S (Steve) at OPC
 Subject: RE: MTBE IN GROUNDWATER - ISSUES BRIEF

I am out of the office and will return on Thursday. Based on a quick review of the attached material, there are several points that need to be made.

- 1) Very small releases of MTBE (even small overfills seeping into cracks in the pavement) have the potential to adversely impact groundwater
- 2) Based on engineering reliability studies, it is likely that a high percentage of sites using MTBE, have a soil and/or groundwater problem. This problem is not just the result of leaking tanks, lines, fills, and dispensers, but is also a result of certain operations.
- 3) Due to MTBE's high solubility and low attenuation rates, it has the potential to migrate large distances relative to benzene (see attached paper)
- 4) Those sites which are located over potable groundwater are potentially very high risk sites.
- 5) Odor and taste will drive the cleanup goals rather than risk. We are currently looking at cleanup goals between 5-15ppb.
- 6) Once in groundwater, MTBE is extremely difficult to remediate. It's Henry's Law coefficient is very low which means that MTBE prefers to stay in the aqueous phase rather than being sorbed or stripped out of water. Air sparging will be relatively ineffective. We are currently evaluating biological and oxidation remediation techniques.
- 7) A simple risk assessment for all sites (like we are in the process of developing) will greatly help focus future resources.

My professional opinion is that MTBE and similar oxygenates should not be used at all in areas where groundwater is a potential drinking water supply. If it is used, engineering design and site operations (including active subsurface monitoring) should be carefully developed to minimize the potential for a release.

Curt

Original Message

From: Pedley JF (Joanna) at MSXWHWTC
 Sent: Monday, November 02, 1998 6:24 PM
 To: Benton F R [Newcos]
 Cc: Stanley CC (Curtis) at MSXWHWTC; Mcarragher S (Steve) at OPC
 Subject: FW: MTBE IN GROUNDWATER - ISSUES BRIEF

Ron -

As discussed earlier today, grateful for your comments (US perspective additions ?) on the attached. Also by copy to Curtis - please could you review also.

nb: Steve had some sections highlighted in red in his original. I have made a few first pass suggested mods which are in blue with strikeouts of the original in black. Please feel free to change my mods.

From: Joanna Pedley
 Equilon Enterprises LLC

Manager Fuels Technology
 Westhollow Technology Center - M2603
 Tel: 281 544 7795
 Fax: 281 544 8585
 email: jfpedley@shellus.com
 jfpedley@equilon.com

THIS COMMUNICATION PER APPLICABLE AGREEMENTS BETWEEN OUR RESPECTIVE COMPANIES

From: McArragher, Steve SIPC-OBMF/51
 Sent: Tuesday, October 27, 1998 8:30 AM
 To: Pedley, Joanna SHLOIL-; Lee, Rob SHLOIL-
 Cc: Wynn-Williams, William SIPC-OBX
 Subject: MTBE IN GROUNDWATER - ISSUES BRIEF

Joanna, Rob, as discussed with Rob last week, we are starting to worry about the MTBE contamination issue outside

EQ 033388

USA. We have heard concerns in Scandinavia, and now it looks as if Brasil may also have some problems. We have put together an "Issues Brief" intended for Shell company management, and a set of Q&As for external use if necessary. As this is very much a US led issue, we would be grateful for some advice and comments from Equilon. I understand that Curtis Stanley is the expert, but have not approached him directly. What we are looking for is really a political steer, especially on questions like the number of leaking tanks in USA vs. Europe. I would be grateful if you could ask the appropriate contacts in Equilon to look at these documents and let us have comments.

<< File: MTBE issues brief v4.doc >> << File: MTBE Q&As v5.doc >>

With Best Regards

Steve McArragher - OBMF/33

Standard Setting - Gasoline

Oil Products - Strategy and Business Services

Shell International Petroleum Co.

Shell Centre, LONDON, SE1 7NA, UK

Tel 44-171-934-5457 Fax 44-171-934-6014

Internet: Steve.J.S.McArragher@OPC.shell.com

EXHIBIT 25

MTBE RELEASE SOURCE IDENTIFICATION AT MARKETING SITES

**A Study Conducted for EUSA ESD by
Exxon Research & Engineering Company**

3/30/99

**By: A. E. Liguori
 A. C. Woerner
 A. M. Calderon**

CONFIDENTIAL: This document is subject to the September 21, 1999 Stipulated Protective Order entered by the San Francisco Superior Court, Case No. 99912

EXLIGU 07255

MTBE RELEASE SOURCE IDENTIFICATION AT MARKETING SITES
(A STUDY CONDUCTED FOR EUSA ESD)

I. Background

a. Study Basis

In August 1998, EUSA Environmental and Safety Division (ESD) requested Exxon Research and Engineering Company to conduct a study identifying potential release sources of the gasoline additive Methyl-Tertiary-Butyl Ether (MTBE) at Exxon retail marketing sites. Interest in identifying these potential sources is important to EUSA, as well as most other U.S. petroleum marketing companies, because MTBE contamination is increasingly being found in surface and ground waters near gasoline service stations, and has been identified as a potential threat to public drinking water supply systems. By identifying the potential release sources, it is expected that all necessary and appropriate corrective measures can be taken so that accidental releases of MTBE into the subsurface environment can be prevented.

The objective of this study was to evaluate and categorize the extent and sources of MTBE contamination in soils and ground water at Exxon retail sites. A related objective is for EUSA to use results from this study to assist industry regulatory advocacy efforts with various state and federal environmental agencies. These agencies (with the state of California most notable) are addressing growing public concerns about potential MTBE human health effects, and are enacting regulations to require significant MTBE remediation programs and possibly the elimination of its use as a gasoline additive.

b. MTBE Contamination Issues at Marketing Retail Sites

Methyl tertiary-butyl ether (MTBE) is present in gasoline as an octane enhancer (concentrations up to 9% by volume) or as an oxygenate to reduce ozone and carbon monoxide levels in air (concentrations 11-15% by volume). The presence of MTBE found in surface, ground and drinking waters has been increasing. There are several reasons why increased MTBE presence can be a concern:

- MTBE behaves differently than other gasoline constituents, i.e. it is relatively:
 - more soluble in water,
 - more volatile from product to air,
 - less volatile when dissolved in water to air
 - less likely to adsorb to soil or organic carbon
 - relatively more resistant to biodegradation.
- There is an increase in awareness since the public can easily detect its existence
 - Taste and odor detectable threshold levels are in the ppb ranges (15-180 ppb)
- Small leaks of gasoline (1 teaspoon) can translate into MTBE ground water concentrations above the taste and odor detectable threshold levels. A standard

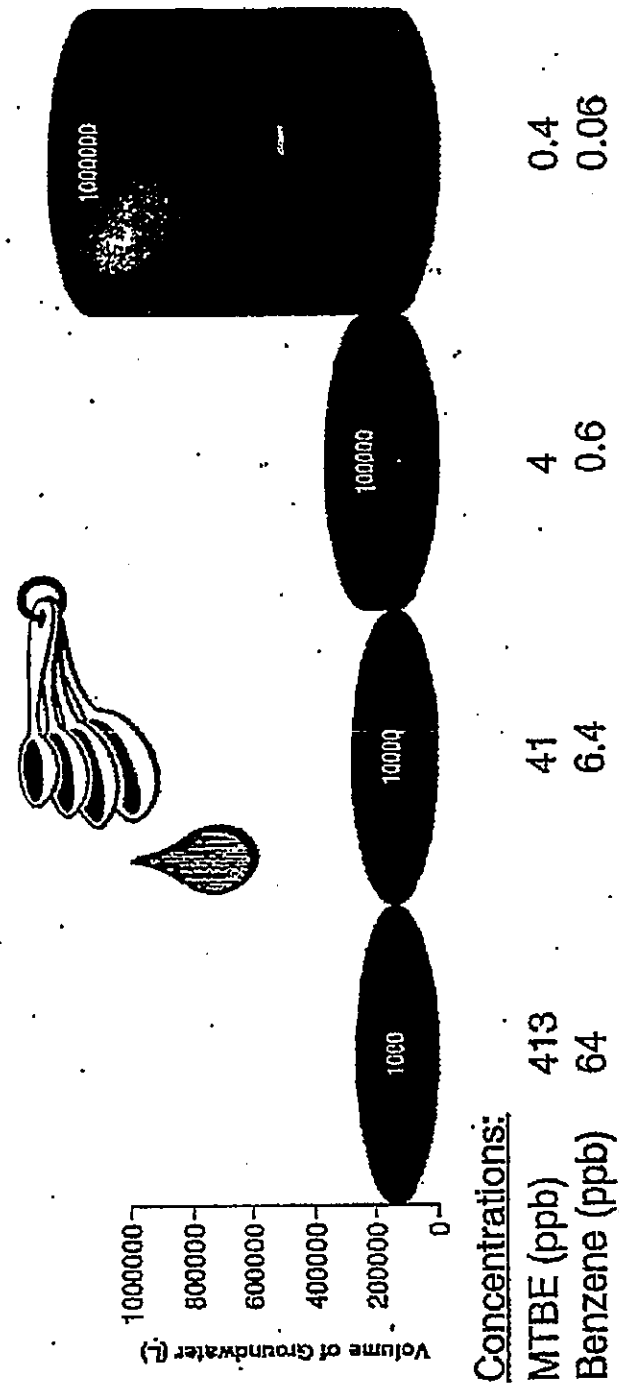
-2-

CONFIDENTIAL: This document is subject to the September 21, 1999 Stipulative Protective Order entered by the San Francisco Superior Court. Case No. 99912

EXLIGU 07257

Figure I-1: Impact of Small Releases

1 Teaspoon of Gasoline ~ 5 ml
 Assume 11.5 vol. % MTBE, 1.5 vol. % Benzene
 Potential Impact on Groundwater a Function of Groundwater Volume



CONFIDENTIAL: This document is subject to the September 21, 1999 Stipulated Protective Order entered by the San Francisco Superior Court. Case No. 99912

EXLIGU 07259

EXHIBIT 26

Bar D (DBEA)

From: Dickey, Hugh (JHDI)
Sent: Wednesday, January 20, 1999 10:59 AM
To: Hopkins, Mark (MHOP)
Cc: Harrer, Bob (ROBD); Buscheck, Timothy (TIBU); Barber, Randy (RBBA); Sea, D (DBEA); Jessel, Al (AJJE); Gilson, Donald (DFGI); Hartwig, Jeff (JWHA); Freeberg, Clay (CRFR); Pierce, David (DWPI)
Subject: RE: MtBE Fate in the Subsurface

Mark - Here's the final MTBE-UST white paper. I tried to be consistent with the spirit (if not the exact wording) of the comments I received from folks. Thanks to all. The only thing we need now is the Bill # from Feinstein's bill and it will be final.

Hugh

MTBE-UST White
Paper (Final).doc

-----Original Message-----

From: Dickey, Hugh (JHDI)
Sent: Monday, January 18, 1999 8:05 AM
To: Buscheck, Timothy (TIBU); Sea, D (DBEA); Barber, Randy (RBBA); Harrer, Bob (ROBD); Hopkins, Mark (MHOP); Jessel, Al (AJJE); Gilson, Donald (DFGI); Hartwig, Jeff (JWHA)
Subject: RE: MtBE Fate in the Subsurface

Here's the first draft of the white paper we would like to use in DC to help lobby the Feinstein/Bilbray bills to remove the federal oxygenate mandate. This responds to the argument that OFA and other MTBE manufacturers make that it is "just a problem with the tanks". Please review and get me any comments you have by COB tomorrow. Thanks,
Hugh

<< File: MTBE-UST White Paper.doc >>

-----Original Message-----

From: Buscheck, Timothy (TIBU)
Sent: Tuesday, January 12, 1999 8:02 PM
To: Dickey, Hugh (JHDI)
Subject: MtBE Fate in the Subsurface

Hugh,

I've attached some material that should be suitable for your white paper.

Tim

<< File: MtBEtanks.doc >>

Solving Problems from MTBE Contamination -

It's Not Just Regulating Underground Tanks

Some have suggested that the problems observed with MTBE contamination of groundwater can be resolved by forcing gasoline manufacturers and retailers into more stringent underground storage tank requirements. They argue it's just the tanks - fix them from leaking, and the MTBE problem will go away. There are several reasons why this explanation over-simplifies the situation. While it is important to reduce the likelihood a release from underground tanks, the mandated use of oxygenates has had unintended consequences. The physical and chemical properties of MTBE (and thus its mobility and persistence in the environment differ markedly from other components of gasoline. These differences make MTBE (and other ethers and heavy alcohols) more likely to get into groundwater and problematic to contain and clean up when a release occurs. These differences include:

- MTBE is more volatile than many components in gasoline. This means it is more likely to evaporate into the atmosphere when a release occurs, which in turn can readily move into water vapor (and subsequent rainfall) in the atmosphere.
- MTBE and other oxygenates are orders of magnitude more soluble in water than other gasoline components. Oxygenates make up one of largest single components in gasoline (10-15% by volume). They have a strong affinity for and dissolve easily in water (rainfall, surface waters, groundwater)
- Other gasoline components in comparison, bond more strongly to soil, should a release occur. This greatly reduces the volume of groundwater requiring clean-up, by limiting the area impacted.
- MTBE does not biodegrade as readily as other gasoline components, increasing the volume of groundwater impacted and making it more difficult to clean up.

Researchers at the University of California - Lawrence Livermore Laboratory¹ have concluded:

MTBE has the potential to impact regional groundwater resources and may present a cumulative contamination hazard. To date, impacts of MTBE to public water systems have been limited and were similar in frequency to those of benzene. Based on historical data, future impacts of aromatic hydrocarbons, such as benzene to water supplies is not expected to be common, due to retardation and relative ease of biodegradation. In contrast, MTBE contamination may be a progressive problem due to the chemical's apparent recalcitrance and mobility. With a compound that appears both ubiquitous and recalcitrant, water resource management on the regional scale will become increasingly relevant.

¹ "An Evaluation of MTBE Impacts to California Groundwater Resources"; LLNL - June 11, 1998

These concerns on the mobility and persistence of MTBE in the environment are reinforced by a recent study by the state of Maine. The state found MTBE groundwater contamination from small spills of gasoline (e.g. a spill in a parking lot, or a car accident) – incidences that stood in contrast to the known historical causes of MTBE contamination e.g. point source discharges from leaking underground storage tanks.²

While MTBE and other oxygenates have been used for many years as gasoline blending components, it was only after the mandated use of oxygenates following the passage of the 1990 Clean Air Act Amendments, that oxygenates became as widely used as they are today. It is because of the differences in physical and chemical properties of MTBE that it is more likely to reach groundwater, as a result of incidental spills, overfills, and gasoline deliveries, even without underground storage tank leaks. Therefore, the detection of MTBE does not necessarily mean a tank is leaking. For example, MTBE has been found in low concentrations in lakes from rainfall runoff and recreational activities.

Congress passed requirements for owners and operators to upgrade their underground storage tanks, provide for leak detection, and provide for financial responsibility, should a release occur. These requirements became fully effective on January 1, 1999. As a company, Chevron began upgrading their tanks around the country in the early 1980's, years in advance of federal and state requirements. Over the years, Chevron has continued to go beyond federal requirements – for example, in the early 1990's Chevron decided to install double-walled tanks, even though they are not required, in all new and reconstructed service stations. In addition, last year Chevron began a nationwide program to further reduce the likelihood of releases of gasoline into the environment. This program includes evaluation and monitoring of the most sensitive sites where groundwater exists, checking lines and connections of pumps and tanks, and changing station operating procedures and housekeeping practices.

Even these steps, which go far beyond federal and state requirements, can't fully eliminate releases, nor change the physical and chemical properties of MTBE and other oxygenates when they do get in the environment. Further, additional control measures could take years to implement, without fully solving the problem. The solution is to allow refiners the flexibility to avoid putting MTBE into gasoline in the first place. California Cleaner Burning Gasoline, the cleanest burning gasoline in the world, can be produced with little or no oxygenates and still meet the state's strict air quality requirements. Congress should pass HR 11 and S () which would allow California refiners this flexibility.

² "The Presence of MTBE and Other Gasoline Compounds in Maine's Drinking Water"; October 13, 1998

EXHIBIT 27

Legal Retention at MSXSOC

From: Stanley CC (Curtis) at MSXWHWTC
Sent: Tuesday, February 02, 1999 6:28 PM
To: Benton F R [Newcos]
Subject: RE: Draft WSPA Q&A on MTBE

Ron,

The paper looks fine. You may, however, want to carefully consider what you say when the new tank upgrades are our first line of defense. While this is very true and the size of leaks has decreased substantially over the years, we are still finding MTBE at sites that have been upgraded. The presence of MTBE may not be due to a leak but could also be due to operational and construction factors.

Curt

-----Original Message-----

From: Benton F R [Newcos]
Sent: February 02, 1999 7:48 AM
To: Kulakowski James M [Texaco]; Olejnik Larry J [Newcos]; Hancock Steve R [Newcos]; Molina Bert [Newcos]; Meeuwse Mike J [Newcos]; Stanley CC (Curtis) at MSXWHWTC
Subject: Draft WSPA Q&A on MTBE

Please let me know if you have any input/concerns.

-----Original Message-----

From: DMFog@aol.com (SMTP:DMFog@aol.com)
Sent: Friday, January 29, 1999 7:34 PM
To: frbenton@equiva.com
Subject: Oopai

Ron:

I'm a cyber-dummy. Accidentally pushed the delete instead of the print button on your email comment on the MTBE Q&A. Please resend. Attached is the latest draft which reflects all other comments.

Dave << File: Q&A.DOC >>

EXHIBIT

56-99es 12a
Stanley

Legal Retention at MSXSOC

From: Marshall GR (Glen) at MSXSOPC
Sent: Friday, May 29, 1998 5:36 PM
To: Stanley CC (Curtis) at MSXWHWTC
Cc: Chistolini C. Wayne (STAR)
Subject: RE:

We (Shell) are also moving on said focus. "Achilles Heel" of systems has always been the "Bubba-factor".....the best intentions of hardware manufacturers and designers being ultimately defeated by poor installation and maintenance practices. Have been working last 2 years with Oy U-Cont (Varkaus, Finland) and Trusco Tanks (Fresno, CA) on a modular UST system manufactured in a factory (controlled environment) by properly trained personnel under constant supervision and inspection. Initial evaluations indicate a significantly more reliable system installed with roughly 20%+ savings in total project time and costs (related to UST portion of project). LA City Fire loved concept. Have two projects in for permits in LA Basin now. Coupled with our "Compliance Management Concept" (Veeder-Root Simplicity), overall concept could provide significant movement towards what UST system operation should have been all along. Advise if further concept details desired.

Glen R. Marshall, P.E.

Staff Engineer
 Marketing Engineering
 Shell Oil Products Company
 TSP-1138
 Office: (713) 241-1452
 Fax: (713) 241-7166
 Beeper: (800) 342-4033
 Shell ELS: EM10138 @ MSXSOPC
 Internet: grmarshall@shellus.com

-----Original Message-----

From: Stanley CC (Curtis) at MSXWHWTC
Sent: Friday, May 29, 1998 9:03 AM
To: Marshall GR (Glen) at MSXSOPC
Subject: FW:

Glen,

I told API that they had better have a project on slate to evaluate existing systems and new system design, installation, and operations. I already have a good idea what Santa Clara is going to find and if the industry isn't ready with an adequate response/solution, we are all going to look bad. I foresee many agencies requiring extensive groundwater monitoring systems to evaluate whether or not MTBE is being released into the environment, especially in environmentally sensitive areas (near wells, fractured bedrock, etc.).

Curtis C. Stanley

Environmental Technology Directorate - Soil and Groundwater
 Westhollow Technology Center
 (phone-☎) 281-544-7675 (fax-☎) 281-544-8727
 e-mail: cstanley@shellus.com

(This communication per applicable agreements between our respective companies.)

-----Original Message-----

From: Judy Shaw [SMTP:shaw@api.org] <mailto:[SMTP:shaw@api.org]>
Sent: Friday, May 29, 1998 8:57 AM
To: Al Jessel; Brian Harney; C. Fairbrother; Carol Fairbrother; Curt Stanley; Dave Peirce; David Smith; Don Gilson; Eric Vogt; Gene Mancini; Georgia Callahan; Gerry Raabe; Gweneyette Broussard; James Rocco; Jeff Sickenger; Jim Stevenson; John Taunton; Lee Hoffman; Mark Saperstein; Mary Kate Kell; Mike Lobue; Mike Wang; Ned Seppi; Ron Benton; Tim Buscheck; William Doyle
Cc: Alexis Steen; Bill Bush; Bill Frick; Bob Greco; Bruce Bauman; Carol Henry; Chuck Krambuhl; David Deal; David Lax; Debi Tulou; Dee Gavora; Eldon Rucker; Howard Feldman; Jim Williams (MDM); Karen Inman; Kim Ashton; Larry Magni; Marc Meteyer; Martha Jordan; Molly Sinclair; Rick Brown; Robert Barter; Ron Chittim; Theresa Pugh; Tom Lareau; Valerie Ughetta
Subject:

You need to look at the following; it relates to the source identification /protection discussion we had the other day.

SH:032897

EXHIBIT 28

Legal Retention at MSXSOC

From: Marshall GR (Glen) at MSXSOPC
 Sent: Friday, May 29, 1998 5:36 PM
 To: Stanley CC (Curtis) at MSXVHWTC
 Cc: Chistolini C. Wayne [STAR]
 Subject: RE:

Shell are also moving on said focus. "Achilles Heel" of systems has always been the "Bubba-factor".....the best intentions of hardware manufacturers and designers being ultimately defeated by poor installation and maintenance practices. Have been working last 2 years with Oy U-Cont (Varkaus, Finland) and Trusco Tanks (Fresno, CA) on a modular UST system manufactured in a factory (controlled environment) by properly trained personnel under constant supervision and inspection. Initial evaluations indicate a significantly more reliable system installed with roughly 20%+ savings in total project time and costs (related to UST portion of project). LA City Fire loved concept. Have two projects in permits in LA Basin now. Coupled with our "Compliance Management Concept" (Veeder-Root Simplicity), overall concept could provide significant movement towards what UST system operation should have been all along. Advise if further concept details desired.

Glen R. Marshall, P.E.

Staff Engineer
 Marketing Engineering
 Shell Oil Products Company
 ESP1138
 Office: (713) 241-1452
 (713) 241-7166
 Home: (800) 342-4033
 Shell ELS: EM10138 @ MSXSOPC
 Internet: gmarshall@shellus.com

-----Original Message-----
 From: Stanley CC (Curtis) at MSXVHWTC
 Sent: Friday, May 29, 1998 9:03 AM
 To: Marshall GR (Glen) at MSXSOPC
 Subject: FW:

Glen,

I told API that they had better have a project on slate to evaluate existing systems and new system design, installation, and operations. I already have a good idea what Santa Clara is going to find and if the industry isn't ready with an adequate response/solution, we are all going to look bad. I foresee many agencies requiring extensive groundwater monitoring systems to evaluate whether or not MTBE is being released into the environment, especially in environmentally sensitive areas (near wells, fractured bedrock, etc.).

Curtis C. Stanley

Environmental Technology Directorate - Soil and Groundwater
 Westhollow Technology Center
 (phone-☎) 281-544-7675 (fax-☎) 281-544-8727
 e-mail: cstanley@shellus.com

(This communication per applicable agreements between our respective companies.)

-----Original Message-----

From: Judy Shaw [SMTP:shaw@apl.org] <mailto:shaw@apl.org>
 Sent: Friday, May 29, 1998 8:57 AM
 To: Al Jessel; Brian Hamey; C. Fairbrother; Carol Fairbrother; Curt Stanley; Dave Peirce; David Smith; Don Gilson; Eric Vogt; Gene Mancini; Georgia Callahan; Gerry Raabe; Gweneyette Broussard; James Rocco; Jeff Sickenger; Jim Stevenson; John Taunton; Lee Hoffman; Mark Saperstein; Mary Kate Kell; Mike Lobue; Mike Wang; Ned Seppi; Ron Benton; Tim Buscheck; William Doyle
 Cc: Alexis Steen; Bill Bush; Bill Frick; Bob Greco; bruce bauman; Carol Henry; Chuck Krambuhl; David Deal; David Lax; Debi Tulou; Dee Gavora; Eldon Rucker; Howard Feldman; Jim Williams (MDM); Karen Inman; Kim Ashton; Larry Magni; Marc Meteyer; Martha Jordan; Molly Sinclair; Rick Brown; Robert Barter; Ron Chittim; Theresa Pugh; Tom Lareau; Valerie Ughetta
 Subject:

You need to look at the following; it relates to the source identification / protection discussion we had the other day.

SH 032897

EXHIBIT 29

Legal Retention at MSXSOC

From: Marshall Glen R [Newcos]
Sent: Friday, March 12, 1999 2:47 AM
To: Stanley CC (Curtis) at MSXWH-WTC
Subject: RE: Draft Agenda; Roster; Info Items

Already discussed details with Mike Barsa twice. '98 upgrade work will have no affect on MTBE issues. Any system that was going to have problems is still going to have problems. Upgrades addressed inadvertent spills and releases, not root causes of tank or line leaks. Also, all R&D work I'm familiar with indicates that MTBE will have no affect on same.

Glen R. Marshall, P.E.

Staff Coordinator
Technical Services - Engineering
Equiva Services, L.L.C.
Shell + Texaco + Saudi Aramco

9/80 Schedule "A"
Office: (281) 874-4857
Fax: (281) 874-7979
Beeper: (800) 342-4033
Alliance ELS: Marshall GR (Glen)
Internet: GRMarshall@Equiva.com

Address: Equiva Services, L.L.C.
12700 Northborough Drive
Suite 300C12
Houston, TX 77067

-----Original Message-----

From: Stanley CC (Curtis) at MSXWH-WTC (SMTP:CS193653@MSXWH-WTC SHELL.COM)
Sent: Thursday, March 11, 1999 3:35 AM
To: Marshall Glen R (Newcos)
Subject: RE: Draft Agenda; Roster; Info Items

Glen,

This is just an fyi. The new MTBE counsel (outside attorney) is interested in hearing your opinion on tank upgrades in relation to MTBE release prevention. They will contact you in the near future.

Curt

-----Original Message-----

From: Marshall Glen R [Newcos]
Sent: March 10, 1999 9:32 PM
To: Stanley CC (Curtis) at MSXWH-WTC
Subject: RE: Draft Agenda; Roster; Info Items

Any specific support needs from me or my department? I'm not officially on any of the attached committees to my knowledge, have out-of-state vendor coming in on 3-31, and will only be in office 3-29 thru 4-1. Due to current travel commitments, will not be back in office on regular basis until roughly 4-8.

Glen R. Marshall, P.E.

Staff Coordinator
Technical Services - Engineering
Equiva Services, L.L.C.
Shell + Texaco + Saudi Aramco

9/80 Schedule "A"
Office: (281) 874-4857
Fax: (281) 874-7979
Beeper: (800) 342-4033
Alliance ELS: Marshall GR (Glen)
Internet: GRMarshall@Equiva.com

Address: Equiva Services, L.L.C.
12700 Northborough Drive
Suite 300C12
Houston, TX 77067

-----Original Message-----

From: Stanley CC (Curtis) at MSXWH-WTC (SMTP:CS193653@MSXWH-WTC.SHELL.COM)
Sent: Wednesday, March 10, 1999 12:48 PM
To: Allen Regier; Ariene Warden; Brad Boschetto; Bruce Krewinghaus; Chen Chiang; Chris Neaville; Christine White; Chuck Lieder; Cindy Delaney; Daniel Farnier; Ed Hsu; Edward Dinkfeld; Erik Hansen; F Benton; Felicia Federico; George Desley; George Devault; Gerard Spindler; Glen Marshall; Gwendolyn Broussard; Heana Rhodes; James Michalski; Jerry Ivie; Joe Salanito; Jonathan Miller; Kathleen Gilmore; Ken Danner; Ken Springer; Marjorie Hong; Michael Gallagher; Otto Meyers; Paul Sun; Pete Parker; Phil Daly; Phil Dorn; Richard Lewis; Rick Wolfe; Robert Dedoes; Robert Eltinger
Subject: FW: Draft Agenda; Roster; Info Items

FYI

Curt

SH 022667

EXHIBIT 30

Shell Oil Products Company



P.O. Box 4848
Anaheim, CA 92803

511 Markham Street
Anaheim, CA 92801

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

JUNE 25, 1996

*Report
is in
separate
bundle*

Dr. Robert Ghirelli, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
101 Centex Plaza Drive
Monterey Park, CA 91754-2156

*RECEIVED
JUN 28 PM 2:15
CALIFORNIA REGIONAL
WATER QUALITY CONTROL BOARD*

RE: Methyl Tertiary Butyl Ether (MTBE) Pollution Investigation - City of Santa Monica
Charnock Well Field (Your File NO. 94-442)

Dear Dr. Ghirelli:

The following information is furnished in response to your letter on this subject to Mr. Karen Haynes dated May 23, 1996. It responds to the specific information requested by Appendix A to your May 23 letter and provides it in the sequence that information is requested.

MTBE INFORMATION

Shell Oil Company SU2000E Gasoline, introduced in the first quarter of 1990, was the first Shell gasoline manufactured, transported or sold in California that contained MTBE. All Shell gasoline manufactured, transported and sold in California contained MTBE after October, 1992. Shell refineries located in Texas and Louisiana intermittently used MTBE to enhance gasoline octane levels beginning in early 1980. It is possible, but very unlikely, that these refineries supplied some tiny percentage of the gasoline Shell marketed in California in the 1980's. (Shell had three refineries located on the West Coast that supplied almost all of Shell's product throughout this period.) In addition, Shell occasionally purchased small amounts of gasoline on the open market to fulfill its needs. Since our purchase specifications did not reference MTBE during the 1980's and early 1990's, it is also possible that some of the purchased gasoline contained MTBE.

Enclosed as Attachment I are two documents authored by Mr. James M. Davidson of Alpine Environmental, Inc., Fort Collins, Colorado. These documents deal specifically with technical aspects associated with the issue of MTBE in ground water. Shell has no information about MTBE of any real significance to the issue of MTBE in ground water that is not adequately addressed in Mr. Davidson's work.

PIPELINE INFORMATION
(Shell Pipe Line Corporation)

The Shell Pipe Line Corporation owns and operates the Ventura Products Pipeline located in a right-of-way within Sawelle Boulevard. This pipeline lies immediately to the east of the Charnock Field as depicted on the sketch that accompanied your May 23 letter. A map showing the location of the sections of the Ventura Products

00035

Pipeline within a two mile radius of the Charnock Field is enclosed as Attachment II. This pipeline has been exclusively owned by the Shell Pipeline Corporation since prior to January 1, 1980, and has transported only Shell gasoline from that date to the present time.

Shell Pipeline Corporation also owns and operates the Ventura Crude Pipeline a small segment of which is located within one and one-half miles of the Charnock Field. We have not included a map of this pipeline because it has never transported any substance that contains MTBE. The Ventura Crude Pipeline has been exclusively owned and operated by the Shell Pipeline Corporation since prior to January 1, 1980.

Copies of profile drawings for sections of the Ventura Products Pipeline located within two miles of the Charnock field are enclosed as Attachment III. These profile drawings show materials of construction, dates of installation and burial depth. The operational capacity of the segment of the line under discussion is approximately 725 barrels per hour.

No California Pipeline Safety Act hydrostatic tests have indicated that the line leaked. Copies of the tightness certifications for tests performed in 1988 and 1993 are enclosed as Attachment IV. The Ventura Products Pipeline is continuously monitored whenever it is in operation. Pressure readings are compared via computer at intervals of less than 60 seconds. All recorded anomalies are investigated. None were found to be the result product releases.

Our records do not contain any indication of a product release within two miles of the Charnock field nor any indication of contaminated soil along the Ventura Products Pipeline right-of-way. Moreover, discussions with appropriate maintenance and operating personnel responsible for the Ventura Products Pipeline provided no indication of contamination.

Appendix A concludes with a request for a technical report that details an active program to evaluate the length of all petroleum pipelines within two miles of the Charnock Well Field. We believe it is inappropriate to perform any evaluation of the Ventura Crude Pipeline because it has never transported any substance that contains MTBE and because it is enclosed within one and one-half miles from the Charnock Field. We will take immediate steps to evaluate the Ventura Products Pipeline. The next California Pipeline Safety Act hydrostatic test of this pipeline is scheduled for 1998. However, we will now make arrangements to perform a California Pipeline Safety Act test of the segment within approximately two miles of the Charnock field during the third quarter of 1996. We will provide you with the results of this test immediately thereafter. Should these test results indicate that further evaluation is warranted, we will then provide a detailed description of our proposed follow-up investigation.

UNDERGROUND GASOLINE STORAGE TANKS INFORMATION: (Shell Oil Products Company)

There are three operating Shell stations in the list of sites located within the one-mile radius from the Charnock Wellfield. The three Shell stations are at the following locations:

1. 3500 Centinela, Los Angeles
2. 10815 National, Los Angeles
3. 3801 Sepulveda, Culver City

Attachment V contains the summary report addressing the items listed in Appendix A regarding underground gasoline storage tanks.

We believe that the foregoing provides all the information requested by Appendix A. Should you or your staff have any further questions, please contact our Carlson Jordan at (310) 816-2060 for matters related to the Ventura Products Pipeline or Karen Haynes at (714) 520-3395 for matters related to Shell service stations.

Yours truly,

FOR SHELL PIPE LINE CORPORATION:

L. W. Alexander
L. W. Alexander, Manager
Environmental and Technical

FOR SHELL OIL PRODUCTS COMPANY:

P. J. Pagnall
P. J. Pagnall, Manager
Engineering, Western Region

TFM
KGH

00037

EXHIBIT 31

**ULTRAMAR DIAMOND SHAMROCK
C O R P O R A T I O N**



Charles E. Flaniken,
Manager, Quality Control

September 29, 1997

California Environmental Protection Agency
San Francisco Bay Regional Water Quality Control Board
2101 Webster Street
Suite 500
Oakland, CA 94612

Gentlemen:

RE: Request for Information on Gasoline Additives, Letter dated July 29, 1997

As requested in your letter to Mr. Terry Fox of Ultramar Inc., here is a report detailing additives introduced into gasolines distributed in the San Francisco Bay Area by Ultramar Inc. and its predecessor companies during the period from 1978 to 1997.

We have attempted to provide all the information you requested. Kevin Graves of your staff was very helpful in clarifying the scope of your information gathering. If you have questions about the information included in the report, you may contact me directly at the telephone number listed on the letterhead below.

Respectfully,

C. E. Flaniken
Manager, Quality Control

cc: T. Fox, S. Epperson (no attachment)

**ULTRAMAR DIAMOND SHAMROCK
GASOLINE ADDITIVES
SAN FRANCISCO BAY AREA, 1978 - 1997
October 1, 1997**

**Prepared for: San Francisco Bay Regional Water Quality Control Board
By: Charles E. Flaniken, Quality Control Manager**

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Scope

This report is in response to your letter to Mr. Terry Fox of Ultramar Inc. dated July 29, 1997. In addition to the specific information requested about the identity, period of use, concentration, name of supplier, and available health & safety data for the various additives introduced into gasolines at the direction of Ultramar Inc. and its predecessor companies during the last 20 years, we will offer a brief overview of our business activities in the San Francisco Bay Area, discuss limitations to the data provided, and offer suggestions for other sources of information about other additives potentially included in the San Francisco Bay Area.

General Business Information

Ultramar Diamond Shamrock is an independent oil company with headquarters in San Antonio, Texas. Through our subsidiary company, Ultramar Inc., and its predecessor companies, we have refined and marketed gasoline products in California for more than 65 years. We currently own and operate one refinery in California, located in Wilmington, CA. We operate more than 150 company owned service stations, identified with the Beacon or Ultramar brands, throughout the state and supply an additional 200 stations through Branded Contract agreements. Although we neither own nor operate any gasoline distribution terminals, we do supply product to the independent petroleum market through a number of third party terminals.

San Francisco Bay Area Business Activities

Our business activities in the San Francisco Bay Area during the years 1978 - 1997 have been exclusively the additization, transportation, and marketing of petroleum products. We have never owned or operated a refinery or petroleum distribution terminal in the San Francisco Bay Area. We currently operate 47 company owned service stations in the greater San Francisco Bay Area distributed as follows:

<u>County</u>	<u>Number Company Owned Stations</u>
Alameda	6
Contra Costa	7
Marin	0
Napa	4
San Francisco	0
San Mateo	0
Santa Clara	9
Santa Cruz	9
Solano	5
Sonoma	7
Total	47

Brief History of Gasoline Additization in California

Until 1992, gasoline additization was a matter of choice in California. No Federal or State regulations directly required the use of any type of gasoline additive. Use of additives was primarily dictated by (1) their effectiveness in achieving or maintaining compliance with general petroleum product specifications, such as ASTM specifications, (2) recommendations or requirements of OEMs, or (3) marketing considerations.

Over the years, additives have been injected into gasolines at a variety of points in the gasoline manufacturing and distribution system. Additives can be injected into gasoline blending components at the refinery (i.e. antioxidants), used as a blending component at the refinery (i. e. MTBE and other ethers), used as a blendstock at terminal transport truck loading racks (i.e. ethanol), and injected into finished gasolines at terminal transport truck loading facilities (i.e. fuel system detergent additives)

Although there were no direct requirements to use additives, beginning in the early 1970's provisions of the Federal Clean Air Act required additive manufacturers to register additives that were intended for use in transportation fuels with the Office of Fuel and Fuel Additive Registration.

The regulation also required fuel manufacturers to register all additives added to transportation fuels through their direct actions or under their direction and to report such use on a quarterly basis.

The use of detergent additives and oxygenates was mandated by Federal and State regulations beginning in 1992. Additive packages effective in controlling engine deposits were required in California by CARB regulation beginning in January, 1992. A part of the CARB detergent additive regulation required registration of all detergent additives intended for use by fuel suppliers and certification of all potential gasoline detergent additives by CARB staff.

Beginning in November, 1992, all California gasolines were required to have a minimum oxygen content of 1.8 wt% during the winter months to satisfy the requirements of both Federal and State Clean Air regulations. This necessitated the widespread use of oxygenates in California gasolines. Prior to this time, oxygenates were blended voluntarily for business purposes.

The use of detergent additives and oxygenates has been modified by subsequent regulations including Federal detergent additive regulations effective in January, 1994 and July, 1997, Federal RFG requirements effective in parts of California beginning in January, 1995, and CARB RFG regulations effective March, 1996.

Ultramar Inc. Gasoline Additives, San Francisco Bay Area

Ultramar Inc. additization activities in the San Francisco Bay Area have been confined exclusively to additization of gasolines or non-oxygenated blendstocks at transport truck loading facilities located in third party terminals. Since we have not owned or operated these facilities, our role has always been an indirect one, selecting additives individually or jointly with other users of the system and monitoring and reporting use of the additives as required by good business practice and/or governmental regulation.

Since all of the gasoline sold by Ultramar Inc. and predecessor companies in the San Francisco Bay Area was refined and/or imported by other companies and was obtained by purchase from or exchange with another company, the

following list does not include additives that may have been added by others parties prior to our ownership of the gasolines or non-oxygenated blendstocks. A discussion of additives in purchased or exchanged gasolines is included in a later section, "Purchased/Exchanged Gasolines".

The following table lists the commercial or brand name of the additive, manufacturer, purpose for use, and approximate period of use in San Francisco Bay Area gasolines listed in chronological order. Additional notes on each additive follow the table and MSDS data for each additive are included as attachments.

Prior to 1981, no additives of any kind were added by Ultramar Inc. or its predecessor companies to gasolines sold in the San Francisco Bay Area. Nor did Ultramar Inc. or its predecessor companies direct others to inject additives specified by Ultramar Inc. into gasolines sold in the San Francisco Bay Area prior to 1981.

Ultramar Inc. Gasoline Additives, 1981 - 1997

Additive Name	Manufacturer	Purpose	Estimated Dosages	Period
Ethanol, Fuel Grade	Various	Octane Improver & Oxygenate	0 - 10 vol%	1981 - 1991
DMA 67Y	E. I. Dupont	Detergent & Corrosion Inhibitor	0 - 52 mg/l	1986 - 1991
Tolad MFA-10	Petrolite	Detergent & Corrosion Inhibitor	0 - 30 mg/l	1991
OGA 476PL	Chevron Chemical Co.	Detergent & Corrosion Inhibitor	0 - 877 mg/l	1991 - 1995
Ethanol, Fuel Grade	Various	Octane Improver & Oxygenate	0 - 6.2 vol%	1992 - 1995, Oct. - Feb.

Ultramar Inc. Gasoline Additives, 1981 - 1997 (continued)

Additive Name	Manufacturer	Purpose	Estimated Dosages	Period
8195C	Lubrizol Corp.	Detergent & Corrosion Inhibitor	0 - 528 mg/l	1993 - 1995
OGA 477PL	Chevron Chemical Co.	Detergent & Corrosion Inhibitor	0 - 483 mg/l	1995 - 1996
8192S	Lubrizol Corp.	Detergent & Corrosion Inhibitor	0 - 321 mg/l	1995 - 1997
8247E	Lubrizol Corp.	Detergent & Corrosion Inhibitor	0 - 184 mg/l	1997 -

Ethanol, Fuel Grade (MSDS included): Used as a gasoline extender and octane booster in a portion of the gasolines distributed by Ultramar Inc. during the period from 1981 - 1991. The ethanol used was supplied by a variety of suppliers, primarily Archers Daniel Midlands (ADM). Denatured fuel grade ethanol was blended into gasolines at 10 vol% at terminal transport truck loading racks during the years 1981 - 1991 and at 6.2 vol% from 1992 - 1995. While ethanol blended gasoline was sold at most company operated Beacon and Ultramar branded stations, gasolines without ethanol were also available at the option of independent branded dealers and other wholesale customers.

DMA 67Y (MSDS included): Added by ethanol suppliers to ethanol used for blending into a portion of the gasolines distributed by Ultramar Inc. in the San Francisco Bay Area from 1986 - 1991. DMA 67Y is a multifunctional additive manufactured by E. I. Dupont de Nemours, providing detergency and corrosion inhibition. This additive was included in the ethanol blended into gasolines as described above. Fuels blended with 10 vol% fuel grade ethanol

containing DMA 67Y yielded a concentration of about 51 mg/l of DMA 67Y in the finished blend. Not all gasolines distributed by Ultramar Inc. during the period contained DMA 67Y (See the discussion of fuel grade ethanol above.)

Tolad MFA-10 (MSDS included): Added to a portion of the gasolines distributed by Ultramar Inc. in the San Francisco Bay Area during 1991. Tolad MFA-10 is a multifunctional additive manufactured by Petrolite, providing detergency and corrosion inhibition. This additive was injected into gasolines by computer controlled systems at terminal transport truck loading racks at a dosage of about 30 mg/l. Tolad MFA-10 was not added to all gasoline sold in the San Francisco Bay Area in 1991. As additive injection systems were installed in third party terminals prior to CARB additive regulations taking effect in January, 1992, MFA-10 was introduced into gasolines distributed by Ultramar Inc. OGA 476PL was substituted for Tolad MFA-10 late in 1991.

OGA 476PL (MSDS and Product Data sheet included): Added to a portion of the gasolines distributed by Ultramar Inc. in the San Francisco Bay Area from 1991 - 1995. OGA 476PL is a multifunctional additive manufactured by Chevron Chemical Company, providing detergency and corrosion inhibition. This additive was injected into gasolines by computer controlled systems at terminal transport truck loading racks. OGA 476PL was not added to all gasoline sold in the San Francisco Bay Area from 1991 - 1995. OGA 476PL was replaced by Lubrizol 8195C in some gasolines supplied to the San Francisco Bay Area beginning in 1993 and replaced by OGA 477PL in other gasolines beginning in 1995. The maximum average dosage of OGA 476PL from a single supply terminal for a one month period between 1991 and 1995 was 877 mg/l.

Lubrizol 8195C (MSDS and Product Data sheet included): Added to a portion of the gasolines distributed by Ultramar Inc. in the San Francisco Bay Area from 1993 -1995. Lubrizol 8195C is a multifunctional additive manufactured by Lubrizol Corporation, providing detergency and corrosion inhibition. This additive was injected into gasolines by computer controlled systems at terminal transport truck loading racks. Lubrizol 8195C was not added to all

gasoline sold in the San Francisco Bay Area from 1993 - 1995. Lubrizol 8195C replaced OGA 476PL in some gasolines supplied to the San Francisco Bay Area beginning in 1993. Lubrizol 8195C was replaced by Lubrizol 8192S in 1995. The maximum average dosage of Lubrizol 8195C from a single supply terminal for a one month period between 1993 and 1995 was 528 mg/l.

OGA 477PL (MSDS and Product Data sheet included): Added to a portion of the gasolines distributed by Ultramar Inc. in the San Francisco Bay Area from 1995 - 1996. OGA 477PL is a multifunctional additive manufactured by Chevron Chemical Company, providing detergency and corrosion inhibition. This additive was injected into gasolines by computer controlled systems at terminal transport truck loading racks. OGA 477PL was not added to all gasoline sold in the San Francisco Bay Area from 1995 - 1996. OGA 477PL was gradually replaced by Lubrizol 8192S in gasolines supplied to the San Francisco Bay Area during 1995 and 1996. The maximum average dosage of OGA 477PL from a single supply terminal for a one month period between 1995 and 1996 was 483 mg/l.

Lubrizol 8192S (MSDS included): Added to a portion of the gasolines distributed by Ultramar Inc. in the San Francisco Bay Area from 1995 - 1997. Lubrizol 8192S is a multifunctional additive manufactured by Lubrizol Corporation, providing detergency and corrosion inhibition. This additive was injected into gasolines by computer controlled systems at terminal transport truck loading racks. Lubrizol 8192S was not added to all gasoline sold in the San Francisco Bay Area from 1995 - 1997. Lubrizol 8192S replaced Lubrizol 8195C in some gasolines supplied to the San Francisco Bay Area beginning in 1995 and gradually replaced OGA 477PL in other gasolines supplied to the San Francisco Bay Area during 1995 and 1996. Lubrizol 8192S was replaced by Lubrizol 8247E in 1997. The maximum average dosage of Lubrizol 8192S from a single supply terminal for a one month period between 1995 and 1997 was 321 mg/l.

Lubrizol 8247E (MSDS and Product Data sheet included): Added to a portion of the gasolines distributed by Ultramar Inc. in the San

Francisco Bay Area during 1997. Lubrizol 8247E is a multifunctional additive manufactured by Lubrizol Corporation, providing detergency and corrosion inhibition. This additive is injected into gasolines by computer controlled systems at terminal transport truck loading racks. Lubrizol 8192S was not added to all gasoline sold in the San Francisco Bay Area during 1997. Lubrizol 8247E replaced Lubrizol 8195C in some gasolines supplied to the San Francisco Bay Area in 1997. The maximum average dosage of Lubrizol 8247E from a single supply terminal for a one month period through the second quarter of 1997 was 184 mg/l.

Purchased/Exchanged Gasolines

In the oil industry, it is a common practice for companies to supply gasolines to end use customers that they do not manufacture in their own refineries in order to reduce logistic expenses. These gasolines may either be purchased from another company or procured through an "exchange". An exchange is a reciprocal agreement to supply equivalent volumes of similar quality products to each other in agreed upon locations. The specifications governing the products exchanged are agreed upon in advance and are usually based on industry standards and/or regulatory requirements.

Additives were not often addressed in the exchange agreements prior to 1992. Therefore, companies such as Ultramar Inc. have little specific information about individual additives included in gasolines received from other companies through purchases or exchanges prior to 1992. A good example of lack of specific information is the leaded gasoline supplied in the San Francisco Bay Area by Ultramar Inc. prior to the prohibition of leaded gasoline by CARB regulation in 1992. We know that leaded gasoline provided to us through purchases or exchanges had lead contents potentially ranging from about 0.1 grams/gallon Pb to a maximum of 4.23 grams/gallon Pb. We do not know exact organic lead compound used (tetraethyl lead, tetramethyl lead, or a mixture of both), the supplier, or the brand name of the additive used to produce the gasoline we received for distribution.

Another example is oxygenated compounds, such as MTBE. Prior to 1992, unless a gasoline was intended for blending with ethanol or unless specifically

addressed in the purchase or exchange agreement, gasoline manufacturers were not required to disclose the use of oxygenates. Even today, gasolines are typically exchanged on the basis of minimum oxygen content and in the San Francisco Bay Area may contain from 0 - 2.7 wt% oxygen from February to October and 1.8 to 2.7 wt% oxygen from November - January. The type and amount of the oxygenate is typically not disclosed. Although we cannot provide detailed information about other oxygenates that may have been used in gasolines we received through purchases or exchanges, we have included MSDS data for MTBE in the attachments.

We do have limited information from our suppliers about detergent additives included in purchased or exchanged gasolines. The following additives have been used in gasolines supplied to Ultramar Inc. for distribution in the San Francisco Bay Area:

Exchange Gasoline Additives, 1992 - 1997

Supplier	Additive Name
Exxon	OGA 476TU, OGA 400EX
Shell	OGA 400DC, Lubrizol 8192S, Lubrizol 8247E

Dosage rates of these additives would best be supplied by the companies themselves and will likely be included in their response to your current request for information.

Methodologies for Determining Additives in Soil and Water

Ultramar Inc. has no unique proprietary methods for identifying or quantifying fuel additives in soil or water. As indicated in your letter, oxygenates can be readily measured at the ppb level in groundwater using Federally approved test methods. While manufacturers of detergent additives must submit to CARB methods for measuring the additive concentration in fuels as part of the certification process, questions about methods for measuring the detergent additives (typically high molecular weight poly-isobutene amines in a mineral

oil carrier fluid) would best be answered by the additive manufacturers. We will provide contacts with additive suppliers at your request.

Other Sources of Information

If one purpose of this information gathering process is to define the universe of potential compounds that might be added to gasolines, the best source for such information might be the Office of Fuel and Fuel Additive Registration. The Office maintains lists of all additives approved for use in transportation fuels. The address is:

U. S. EPA
Office of Fuel and Fuel Additive Registration
401 M Street, SW
Mail Code 64-06J
Washington, DC, 20460.

Lists of certified deposit control additives are maintained by the CARB staff administered through the Stationary Source Division, Fuels Section. The address is:

California Environmental Protection Agency
Air Resources Board
Stationary Source Division
Fuels Section
2020 L Street
P.O. Box 2815
Sacramento, CA 95814

Further Information

The information included in this report is accurate and complete to the best of our knowledge. We will provide further information or clarification of information included in this report at your request.

EXHIBIT 32

SUPERIOR COURT OF THE STATE OF CALIFORNIA
IN AND FOR THE COUNTY OF MERCED

--oOo--

CITY OF MERCED,

Plaintiff,

vs.

No. 148451

CHEVRON U.S.A., INC.; SHELL
OIL COMPANY; EXXONMOBIL
CORPORATION; EXXON
CORPORATION; KINDER MORGAN
ENERGY PARTNERS L.P.; EQUILON
ENTERPRISES LLC; SFPP, L.P.
and DOES 1 THROUGH 200,
inclusive,

Defendants.

COPY

VIDEOTAPED DEPOSITION OF
ARVEL SHACKELFORD
(VOLUME I - PAGES 1 - 80)
May 18, 2009

REPORTED BY: VALERIE NUNEMACHER, CSR, CCR, RPR

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Deposition of Arvel Shackelford / May 18, 2009

1 can read the question back to you so that you have it
2 clear in your mind before you answer. Because this
3 testimony is under oath, so it's important that we be
4 accurate. That's the important part.

5 A. I understand.

6 Q. Okay. If you need time to read a document or
7 to do something else before you answer, just let us know
8 and we'll do our best to accommodate you today. Each of
9 the attorneys will. We're also going to try and make
10 good use of your time and get this over with.

11 A. Okay.

12 Q. Okay. I'm going to be asking you questions
13 about a gasoline station that was located at 1415 R
14 Street in Merced. Did you and your wife operate that
15 station for over a decade?

16 A. Yes.

17 Q. And did you start leasing that station in
18 approximately 1978?

19 A. '78 is when it was.

20 Q. And then did you later purchase the station
21 from Mobil Oil Corporation?

22 A. From Mobil.

23 Q. And did you operate the station for about a
24 decade after you purchased it?

25 A. Yes, but it was under Exxon.

Deposition of Arvel Shackelford / May 18, 2009

1 and I still remember it. Bias tire.

2 Q. So they asked you a question about what a bias
3 tire was?

4 A. They asked the two kinds of tires and I could
5 not think of bias.

6 Q. Okay. Once you started operating the station
7 under the lease, it was Mobil-branded station?

8 A. Yes.

9 Q. Was it your understanding you were selling
10 Mobil gasoline during that period you were leasing?

11 A. Yes.

12 MR. PARKER: Objection. Lacks foundation.
13 Calls for speculation. And also calls for a legal
14 conclusion.

15 MR. MILLER: Q. Well, actually the whole
16 station was labeled, "Mobil." You had a big sign that
17 said, "Mobil"? The dispensers were labeled, "Mobil"?
18 The gas was labeled, "Mobil," correct?

19 A. Yes.

20 MR. PARKER: Objection. I'm sorry,
21 Mr. Shackelford, we're now getting into some questions
22 where I have an objection to the question that
23 Mr. Miller raised -- or that he asked. So if you could
24 pause for just a second --

25 THE WITNESS: Oh, okay.

Deposition of Arvel Shackelford / May 18, 2009

1 MR. PARKER: -- then I can get my objection on
2 the record.

3 THE WITNESS: Okay.

4 MR. PARKER: Thank you, very much.

5 THE WITNESS: No problem.

6 MR. PARKER: I object to that question in that
7 it is compound, leading, argumentative. States a legal
8 conclusion incorrectly. Assumes facts not in evidence.
9 And calls for speculation.

10 MR. MILLER: Here's the good part about what
11 he said. There's a ground rule you need to remember.
12 It helps the court reporter if we don't all talk at
13 once. She prefers only one voice. It makes it a lot
14 easier for her to do her job.

15 THE WITNESS: Sorry.

16 MR. MILLER: It's all right. We'll remind you
17 if need be, but I'm pretty sure you'll remember. Could
18 you reread the question please.

19 (Whereupon, the record was read as follows:

20 "Question: Was it your understanding you were
21 selling Mobil gasoline during that period you
22 were leasing?

23 "Answer: Yes.")

24 MR. MILLER: Q. And during the period that
25 you were leasing from Mobil, the sign on the station

Deposition of Arvel Shackelford / May 18, 2009

1 said, "Mobil," the gasoline dispenser said, "Mobil,"
2 correct?

3 MR. PARKER: Objection. Compound. Leading.

4 MR. MILLER: Q. You can answer.

5 A. Oh, yes. Yes.

6 Q. And certainly if you had Mobil's name out
7 there on the dispenser, you knew the customers thought
8 they were buying Mobil gas and you thought you were
9 selling Mobil gas; is that correct?

10 MR. PARKER: Objection. Compound. Leading.
11 Calls for speculation. Calls for a legal conclusion.

12 THE WITNESS: Yes.

13 MR. MILLER: Q. During that period of time
14 that you were doing the lease, I would like you to
15 describe whether representatives of Mobil would come out
16 to the station and, if so, what they were doing.

17 A. They came to the --

18 MR. PARKER: Again, I'm sorry. Objection.
19 Compound. Calls for a narrative.

20 MR. MILLER: Q. Go ahead, please.

21 A. They came about once a month. When one guy
22 would come and he'd check and then take orders for oil
23 and stuff like that from Mobil.

24 Q. From your communications with that
25 representative, were you doing what they wanted you to

Deposition of Arvel Shackelford / May 18, 2009

1 do?

2 MR. PARKER: Objection. Lacks foundation.

3 Calls for speculation.

4 THE WITNESS: As far as I was -- know I was
5 all right, because I bought the station from them after
6 ten years. So other than that they would have kicked me
7 out probably.

8 MR. MILLER: Q. Did they ever -- after an
9 inspection or visit by a Mobil representative, did they
10 ever tell you that they were unhappy with the way you
11 were handling the station?

12 MR. PARKER: Objection. Mischaracterizes the
13 testimony. Assumes facts not in evidence.

14 THE WITNESS: Never.

15 MR. MILLER: Q. Okay. In 1984, I want to
16 focus on the purchase of the station from Mobil.

17 A. Okay.

18 Q. Was it your idea to buy the station or did
19 they bring up the subject to you?

20 A. They said they were going to sell the station
21 and I said, Well, if you are, I want to buy it.

22 Q. Okay. And did they tell you why they wanted
23 to sell it?

24 A. No.

25 Q. When you discussed purchasing the station, do

Deposition of Arvel Shackelford / May 18, 2009

1 round pumps and they didn't want round pumps at an Exxon
2 station. Because I switched over to Exxon.

3 Q. Okay. So after the purchase you entered into
4 an arrangement to buy Exxon gasoline, correct?

5 A. Yes.

6 MR. PARKER: Objection. Lacks foundation.
7 Calls for a legal conclusion.

8 MR. MILLER: Q. Who did you buy your gasoline
9 from after you entered into the arrangement?

10 A. Curtesy Oil.

11 Q. And at the time that you switched to Curtesy
12 Oil, did you change the signage for the service station?

13 A. Yes.

14 Q. And how did you change it? Used to be Mobil,
15 what did it change to?

16 A. Exxon.

17 Q. Were there ever any other types of signs on
18 the station as far as the brand of gasoline being sold
19 other than Mobil or Exxon during your entire period that
20 you owned or operated it?

21 A. No..

22 Q. From the time you entered into the agreement
23 with Curtesy, was it your understanding that you were
24 getting a particular brand of gasoline --

25 MR. PARKER: Objection.

Deposition of Arvel Shackelford / May 18, 2009

1 MR. MILLER: Q. -- from Courtesy?

2 MR. PARKER: Objection. Lacks foundation.

3 Calls for an expert and a legal opinion.

4 THE WITNESS: All I know it was Exxon and he

5 was Exxon for a long time and I knew him since 1943 or

6 '44. I don't think we even signed an agreement. I

7 think it was just verbal.

8 MR. MILLER: Q. Okay. So you had known him

9 for quite a while?

10 A. I knew him before his kids were born, yep.

11 Q. Okay. Did you think that he had a good

12 business reputation?

13 A. He did.

14 Q. And was he fair in his dealings with you?

15 A. Yes. Yes. Well, now -- it wasn't he, it was

16 his sons because he's already 75 years old. But his

17 sons -- I wouldn't have went with them if I didn't feel

18 good about them. And I like -- I don't recall even

19 writing a piece of paper that I would sell nothing but

20 Exxon gas. They said they'll bring it to me and that

21 was all.

22 Q. Okay. And on the bills, it showed that you

23 were buying Exxon gasoline from them?

24 A. Yes.

25 MR. PARKER: Objection. Best evidence as to

1 STATE OF IDAHO }
2 COUNTY OF KOOTENAI } ss.
3

4 I, VALERIE NUNEMACHER, CSR, License No. 738, do
5 certify:

6 That ARVEL SHACKELFORD, the witness in the
7 foregoing deposition, was first duly sworn to testify to
8 the truth, the whole truth, and nothing but the truth in
9 the within-entitled cause;

10 That said deposition was reported by me at the time
11 and place therein stated by me, a Certified Shorthand
12 Reporter, and thereafter transcribed into typewriting;

13 I further certify that I am not interested in the
14 outcome of said action, nor connected with, nor related
15 to, any of the parties of said action or to their
16 respective counsel.

17 IN WITNESS WHEREOF, I have hereunto set my hand
18 this 1st day of June, 2009.

19

20

21

22

23

24

25

Valerie Nunemacher
VALERIE NUNEMACHER, ID CSR No. 738

EXHIBIT 33

Byers & Anderson, Inc.
Court Reporters & Video

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA
IN AND FOR THE COUNTY OF SAN FRANCISCO

SOUTH TAHOE PUBLIC UTILITY
DISTRICT,

Plaintiff,

vs.

No. 999128

ATLANTIC RICHFIELD COMPANY
("ARCO"); ARCO CHEMICAL COMPANY;
SHELL OIL COMPANY; CHEVRON U.S.A.,
INC.; EXXON CORPORATION; B.P.
AMERICA, INC.; TOSCO CORPORATION;
et al.,

Defendants.

VIDEOTAPED DEPOSITION OF ROBERT C. DONOVAN

August 31, 2000
Sea-Tac, Washington

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1 A In the fall of 1995, perhaps the summer of 1995, in
2 various conversations with various environmental
3 consultants in my employ -- "my" being Tesoro's employ,
4 -- on the West Coast, discussions of MTBE became more
5 common.

10:40 AM 6 Q And why was that?

7 MS. MARTIN: Objection; calls for
8 speculation, lacks foundation.

9 A The consultants brought it up. I don't know why. I
10 don't know what their -- their background was to start
11 feeling that they should raise this issue with me.

10:40 AM 12 Q (By Mr. Sher) Which consultants do you have in mind
13 when you refer to "consultants"?

14 A I remember specifically a conversation I had with the
15 consulting company named Orion Environmental. And
16 they're located in Long Beach, California,

10:40 AM 17 Q Can you recall the circumstances of that conversation?

18 A I believe it was in the fall of 1995. And one of the
19 staff scientists attended a conference on MTBE, or
20 perhaps a conference that mentioned MTBE.

10:41 AM 21 Q Do you recall who this staff scientist was?

22 A Her name was Mardi. And that is -- I'll spell that, if
23 I may.

10:41 AM 24 Q Yes, please.

25 A M-A-R-D-I. And her last name is -- was Read. And that

1 is spelled R-E-E-D -- I'm sorry, that is spelled
2 R-E-A-D. Correction.

10:41 AM 3 Q And Ms. Read was a staff scientist with Orion
4 Environmental?

5 A That's correct.

10:41 AM 6 Q And she was the one that you said had attended a
7 conference at which MTBE was discussed?

8 A To the best of my recollection.

10:42 AM 9 Q To your knowledge, had MTBE been discovered at that
10 point at any Tesoro sites?

11 A No.

10:42 AM 12 Q What can you recall about the gist of the conversation
13 that you had with Ms. Read?

14 A There was a discussion with regards to MTBE as an
15 additive in its fait and transport to the environment.
16 Ms. Read brought up the point -- and I must stress this
17 as recollection of almost five years ago -- that there
18 was a large body of toxicity data for MTBE. Apparently
19 it had been used for medicinal purposes at some point.

20 This sparked me to learn more about MTBE.

10:43 AM 21 Q What sort of investigation did you undertake at that
22 point?

23 A I went to a conference. I believe that conference was
24 in May of 1996 -- I'm sorry -- February 1996. I want to
25 stress I believe that's when the conference was.

10:43 AM 1 Q Can you recall the title of the conference?

2 A No, I can't.

10:43 AM 3 Q Can you recall where it was?

4 A It was in the LA area, but not LA proper.

10:43 AM 5 Q Was MTBE the only topic of this conference?

6 A No, it wasn't.

10:43 AM 7 Q Was it a topic at the conference?

8 A I'm not sure if it was on the agenda, but it was
9 discussed.

10:44 AM 10 Q Did you attend the conference for reasons other than
11 MTBE?

12 A Yes, I did.

10:44 AM 13 Q What were those other reasons?

14 A This was a conference where various members of two
15 regional water quality control boards in the greater LA
16 area were present. And I recall there was a panel
17 discussion. And the main focus of the conference was
18 RBCA; Risk Based Corrective Action. It's an acronym for
19 Risk Based Corrective Action. And some of the -- the
20 strategic fallout from recent reports out of Lawrence
21 Livermore Laboratories on the fate and transport of
22 gasoline plumes.

10:45 AM 23 Q When you refer to fate and transport, are you referring
24 to MTBE's persistence in movement in soil and
25 groundwater?

1 And we have agreed that rather than going through
2 those document by document in the deposition, much of
3 which would require us to specifically designate the
4 transcript as confidential, that counsel will work
5 together to authenticate these documents as appropriate
6 for other purposes in the litigation.

7 Is that fair?

8 MS. MARTIN: We agree.

9 MR. SHER: Is that correct?

10 MS. MARTIN: That's correct.

01:55 PM 11 Q (By Mr. Sher) Let me just ask you, there's a fourth
12 site that I wanted to ask you if you recall, in
13 La Mirada, California; a former Lucky Store property at
14 which there's an MTBE plume. Is that --

15 A Yes.

01:55 PM 16 Q And is that in addition to the three sites that you
17 identified previously?

18 A Yes, it is.

01:55 PM 19 Q And are there any other sites in California that you're
20 aware of at which there are -- in which there is MTBE
21 present?

22 MS. MARTIN: Objection; calls for
23 speculation. And it's outside of the scope of the
24 designated issues or the document demands. So --

25 MR. SHER: Well, what I'm trying to

1 MR. SHER: I have read the
2 correspondence.

3 MS. MARTIN: Okay, go ahead.

4 MR. SHER: And I'm entitled to have
5 a witness, who is under oath, tell me whether certain
6 representations about the existence or lack of existence
7 of documents are accurate to his understanding.

8 MS. MARTIN: Okay.

9 A I know of no such documents.

02:16 PM 10 Q (By Mr. Sher) Is there any other department at Tesoro,
11 that you know of, that would be responsible for
12 practices, procedures, or precautions which would be
13 followed in cleaning up or remediating a spill of
14 gasoline containing MTBE?

15 A No, there's not.

02:16 PM 16 Q Now, Counsel earlier told us that there was one document
17 produced in response to Question No. 23, which asks for
18 any practices, procedures, or precautions which should
19 be followed in cleaning up or remediating a spill of
20 gasoline since 1992.

21 And I don't want to -- other than the document
22 that has been produced to us, the one document which is
23 dated 1991, are you aware of any other responsive
24 documents?

25 MS. MARTIN: Again, I believe we

1 should just clarify, during meet and confer, we
2 explained that we were not producing any documents that
3 would be spill response plans related to refinery
4 activities.

02:17 PM 5 Q (By Mr. Sher) Okay. Setting aside spill responses at
6 refineries.

7 A There are no other documents that I am aware of.

02:18 PM 8 Q In your capacities at Tesoro in environmental
9 management, has your company ever, to your knowledge,
10 prepared any risk assessment to evaluate the likelihood
11 that gasoline containing MTBE would be released into the
12 environment?

13 A No, we have not.

02:18 PM 14 Q Has your department at Tesoro ever performed any
15 analysis of whether upgraded gasoline storage tanks
16 reduced the incidence of gasoline releases into the
17 environment?

18 A No, we have not.

02:18 PM 19 Q Has your company ever estimated the cost of remediating
20 MTBE releases into the environment --

21 MS. MARTIN: Objection --

02:19 PM 22 Q (By Mr. Sher) -- from retail gasoline stations?

23 MS. MARTIN: Objection; vague and
24 ambiguous, calls for speculation, and lacks foundation.

25 A Could you repeat the question, please?

1 MR. SHER: Let's have it read back.

2 (Question on Page 113, Lines 19
3 through 20, and 22, read by the
4 reporter.)

5
6 A Tesoro estimates probable expenditures for all releases
7 that we are responsible for.

02:19 PM 8 Q (By Mr. Sher) And in performing those kinds of
9 estimates, have you ever distinguished between releases
10 including MTBE and releases that do not include MTBE?

11 A No, we have not.

02:19 PM 12 Q To your knowledge, has anybody in your department
13 at Tesoro performed any economic analysis of the
14 environmental impacts of using MTBE in your gasoline?

15 MS. MARTIN: Objection; vague and
16 ambiguous, lacks foundation, calls for speculation.

17 And further, we have responded to these exact
18 written discovery requests twice. Mr. Donovan already
19 verified these responses under oath. He -- these are
20 duplicative of Discovery Request No. 124 that we
21 responded to and he verified.

22 MR. SHER: We will get through this
23 very quickly if you would just allow the witness to
24 answer.

25 A Would you repeat the question?

1 Q (By Mr. Sher) Sure.

2 MR. SHER: Read it back

3 (Question on Page 114, Lines 12
4 through 14, read by the
5 reporter.)

6
7 MS. MARTIN: Same objections.

8 A No, they have not.

9 MR. SHER: Let's go off the record
10 for a minute.

11 THE VIDEOGRAPHER: We are now going
12 off the record. The time is 2:20.

13 (Discussion off the record.)

14
15 THE VIDEOGRAPHER: We are now back
16 on the record. The time is 2:21.

02:21 PM 17 Q (By Mr. Sher) Mr. Donovan, will you briefly summarize
18 your educational background since high school?

19 A I have a bachelor's of science degree in geology from
20 the University of Nebraska at Lincoln.

02:21 PM 21 Q When did you get that?

22 A I graduated in 1982.

23 That was followed by a master's of science degree
24 in geology from the University of Wyoming. And that was
25 obtained in 1986.

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83/31/95 16:13:82 VIA FAX

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713 293 3385 meyers, jeff

Page 882

FROM: API-HESD WASH DC

TO:

VIA XPEDITE

MAR 31, 1995 4:04PM #848 P.02

American Petroleum Institute
1220 L Street, Northwest
Washington, D.C. 20005
202 682-8345
202/682-8270 (Fax)



Bruce J. Bauman, Ph.D.
Health & Environmental Sciences Department

March 31, 1995

TO: Soil/Groundwater Technical Task Force

FROM: Bruce Bauman

RE: USGS VOC / MTBE in Groundwater Study

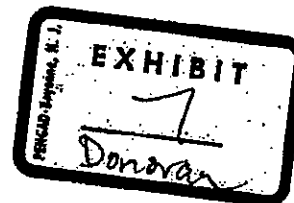
Here is the fact sheet the USGS has compiled that summarizes the report they will release next week. Also attached are a couple of pages we extracted from the USGS home page on the Internet's World Wide Web:

<http://www.vares.er.usgs.gov/nawqa/nawqa_home.html>

The fact sheet is also available at that location. The last page of the USGS release also notes other contacts for further information. We will learn more from them during the briefing they will give us here at API next Tuesday, April 4 at 3:30 PM. Enjoy!

cc: H. Hopkins
R. Claff
J. Shaw
S/GTTF file

cc: Leelb Hman, Billings
Chuck Welmann, Denver
Terry Lavett, Poudre
Jeff Baker, Lake Erie
Ran Gault, Poudre
Bill Broddie, Harte
RT circulation
Copy



An equal opportunity employer

TS1 003540

MAR 31 '95 15:11

VIA FAX

PAGE.002

83/31/95 16:13:27 VIA FAX

713 293 3385 meyers, jeff

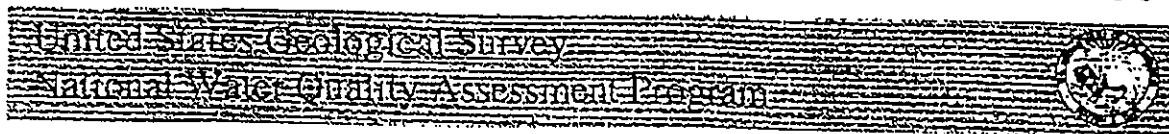
Page 883

FROM: API-HESD WASH DC

TO:

VIA XFEDITE

MAR 31, 1995 4:04PM #840 P.03



Occurrence of the Gasoline Additive MTBE in Shallow Ground Water in Urban and Agricultural Areas

Methyl tert-butyl ether (MTBE) is a volatile organic compound (VOC) derived from natural gas that is added to gasoline either seasonally or year round in many parts of the United States to increase the octane level and to reduce carbon monoxide and ozone levels in the air. In 1993, production of MTBE ranked second among all organic chemicals manufactured in the United States. Currently, the U.S. Environmental Protection Agency (EPA) tentatively classifies MTBE as a possible human carcinogen. Health complaints related to MTBE in the air were first reported in Fairbanks, Alaska in November 1992 when about 200 residents reported problems such as headaches, dizziness, eye irritation, burning of the nose and throat, disorientation, and nausea. Similar health complaints have been registered in Anchorage, Alaska; Missoula, Montana; Milwaukee, Wisconsin; and New Jersey.

As part of the U.S. Geological Survey's National Water-Quality Assessment (NAWQA) Program, concentrations of 60 VOCs were measured in samples from 211 shallow wells in 8 urban areas and 524 shallow wells in 20 agricultural areas. Chloroform and MTBE were the two most frequently detected VOCs. MTBE was detected in 27 percent of the urban wells and 1.3 percent of the agricultural wells. Concentrations ranged from less than the detection level of 0.2 µg/L (micrograms per liter) to as high as 23,000 µg/L. When detected, the median concentration of MTBE was 0.6 µg/L. MTBE was most frequently detected in shallow ground water in Denver, Colorado and urban areas in New England. In Denver, 79 percent of the samples from shallow urban wells had detectable concentrations of MTBE and in New England, 37 percent of the samples from urban wells had detectable concentrations. Only 3 percent of the wells sampled in urban areas had concentrations of MTBE that exceeded 20 µg/L, which is the estimated lower limit of the EPA draft drinking water health advisory level. Contaminant concentrations below the health advisory are not expected to cause any adverse effects over a lifetime of exposure. MTBE is on the EPA's Drinking Water Priority List, which means it is a possible candidate for future regulation.

What Is MTBE and why Is It used?

The Clean Air Act Amendments of 1990 mandate that compounds that add oxygen (oxygenates) be added either seasonally or year round to gasoline in specific parts of the country where concentrations of ozone in the summer or carbon monoxide in the winter exceed established air-quality standards. Oxygenates are added to increase the octane of gasoline and to improve air quality in urban areas. Oxygenates are added to more than 30 percent of the gasoline in the United States, and by the end of this decade, the Oxygenated Fuels Association has estimated that oxygenates will be added to 70 percent of the gasoline. MTBE is a commonly used oxygenate because of its low cost, ease of production, and favorable transfer and blending characteristics. It is

made from methanol, which is derived primarily from natural gas. Gasoline can contain up to 15 percent MTBE by volume. In 1993, 24 billion pounds of MTBE worth about \$3 billion was produced in the United States. Domestic production of MTBE and its use in the United States decreases the need for foreign oil.

Why Is MTBE of Interest?

About 109 million Americans live in counties where MTBE is believed to be used (fig. 1). Health complaints related to MTBE in the air were first reported in Fairbanks, Alaska in November 1992 when about 200 residents reported headaches, dizziness, irritated eyes, burning of the nose and throat, coughing, disorientation, and nausea after MTBE had been added to gasoline. Health complaints also have been registered in Anchorage, Alaska; Missoula, Montana; Milwaukee, Wisconsin; and New Jersey. Studies done by the Centers for Disease Control and Prevention in Fairbanks, Alaska; Albany, New York; and Stamford, Connecticut have shown that the concentration of MTBE in the blood is related to the concentration of MTBE in the air. People with the greatest exposure, such as gasoline service station attendants and automobile mechanics, had the largest concentrations of MTBE in their blood (ranging from less than 0.05 to 37 µg/L); however, even commuters had measurable concentrations of MTBE in their blood (ranging from less than 0.05 µg/L to 2.6 µg/L). Furthermore, the study in Fairbanks showed that among commuters there was a significant increase in the concentration of MTBE in their blood as a result of exposure to MTBE while driving. Detectable concentrations of MTBE were found in the blood of all those tested 2 months after the use of MTBE was suspended in Alaska.

What are the sources of MTBE?

All sources of MTBE released to the environment are not well documented. The release of MTBE in 1992 from industry in the United States accounted for only 0.03 percent of the MTBE that was produced. According to EPA's Toxic Release Inventory for 1992, about 94 percent of the MTBE released from industry was released to the air, 3.5 percent was discharged to surface water, and 2.5 percent was injected into wells. Releases of MTBE in addition to those from industry have not been quantified. For example, the amount of MTBE released during refueling at service stations and from mobile sources such as vehicles is unknown, but may be an important source of MTBE in the environment. Leaking underground storage tanks and spills at the land surface are also sources of MTBE in the environment.

What are the chemical properties of MTBE and its fate in the environment?

MTBE is an ether. It is a volatile, flammable, colorless liquid at room temperature, and it smells like turpentine.

TS1 003541

MAR 31 '95 15:12

VIA FAX

PAGE.003

83/31/95 16:14:46 VIA FAX

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713 293 3385 meyers, jeff

Page 884

FROM:API-HESD WASH DC

TO:

VIA XPEDITE

MAR 31, 1995 4:25PM #840 P.04

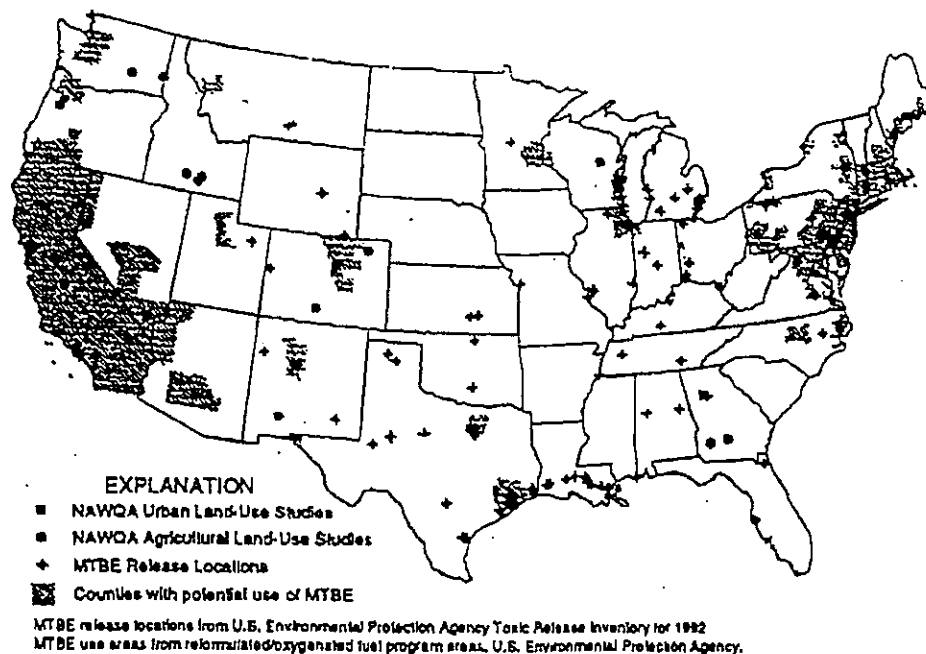


Figure 1. Location of urban and agricultural areas studied, and locations where MTBE may be released and used.

MTBE mixes with gasoline and is soluble in water, alcohol, and other ethers. Because of its chemical characteristics, MTBE would be expected to be found primarily in the atmosphere and in water. Results of a computer model used by Environment Canada for southern Ontario showed that 56 percent of MTBE in the environment should be found in the air, 43 percent in surface water and only about 0.5 percent in soil or streambed sediment. This model predicts where MTBE may be found in the environment but needs to be verified by environmental sampling. Although MTBE will volatilize from soils, it is also highly mobile in soil and can move into ground water. Once in ground water, MTBE resists decay when compared to other gasoline components like benzene. In surface water, MTBE is not expected to bioaccumulate in aquatic organisms.

It is hypothesized that MTBE moves with water in the hydrologic cycle (fig. 2), but more data are needed to determine the extent of the movement. MTBE is released to the air from sources such as industry and vehicles. Once in the air, MTBE can mix with precipitation that may eventually carry MTBE to the ground water or to streams. The MTBE detected in snow samples collected in Denver, Colorado by U.S. Geological Survey scientists supports this hypothesis. Alternatively, gasoline spills may directly contribute to MTBE contamination of ground water and surface water.

Where, how frequently, and at what concentrations is MTBE found in shallow ground water?

The concentrations of MTBE and 59 other VOCs were measured in samples of shallow ground water from 211 urban wells and 324 agricultural wells in 1993-94. These monitoring wells are located in 8 urban and 20 agricultural areas. These urban areas were located where MTBE was released to the environment by industry or is potentially used in gasoline. Some of the wells were constructed for the NAWQA studies, whereas others were existing wells. Wells for these studies were randomly located within specific land-

use areas to allow comparison of shallow ground-water quality with land use. Urban wells were located in industrial, commercial, residential, and recreational areas, while agricultural wells were located in various crop areas.

Water-quality data from urban and agricultural areas show that MTBE occurs predominantly in shallow ground water underlying urban areas. MTBE was detected in 27 percent of urban wells, and in 1.3 percent of agricultural wells distributed across the United States, with concentrations ranging from less than the detection level of 0.2 µg/L to 23,000 µg/L. The concentrations of MTBE in ground water from eight urban areas are shown in figure 3. When detected, the median concentration of MTBE was 0.6 µg/L.

MTBE was detected in shallow ground water in all eight urban land-use studies but was detected in ground water from only 3 of 20 agricultural areas studied. For the urban areas, MTBE was most frequently detected in Denver, Colorado, and in urban areas in New England (fig. 4). In Denver, 79 percent of the shallow urban wells (23 of 29 wells) had detectable concentrations of MTBE, and in New England (specifically urban areas within Connecticut, Massachusetts, and Vermont), 37 percent of the wells (13 of 35 wells) had detectable concentrations of MTBE. Other urban areas where MTBE was detected included Reno, Nevada; Albany, New York; Dallas/Fort Worth, Texas; Las Vegas, Nevada; Atlanta, Georgia; and Albuquerque, New Mexico. Within agricultural land-use areas, MTBE was detected in southern Colorado, New England, and eastern Pennsylvania.

MTBE was the second most commonly detected VOC in water from urban wells. Of the 211 urban wells tested, 28 percent had chloroform; 27 percent had MTBE; 18 percent had tetrachloroethene; 10 percent had trichloroethene; 7 percent had cis-1,2 dichloroethene; 5 percent had 1,1-dichloroethane; and 5 percent had benzene. There are many potential sources for these other chemicals; however, 1,1-dichloroethane and benzene are used in gasoline, and chloroform has been identified in automobile exhaust.

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MAR 31 '95 15:13

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03/31/95 16:15:45 VIA FAX

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713 293 3385 meyers, jeff

Page 885

FROM: API-HESD WASH DC

TO:

VIA XPEDITE

MAR 31, 1995 4:26PM H840 P.05

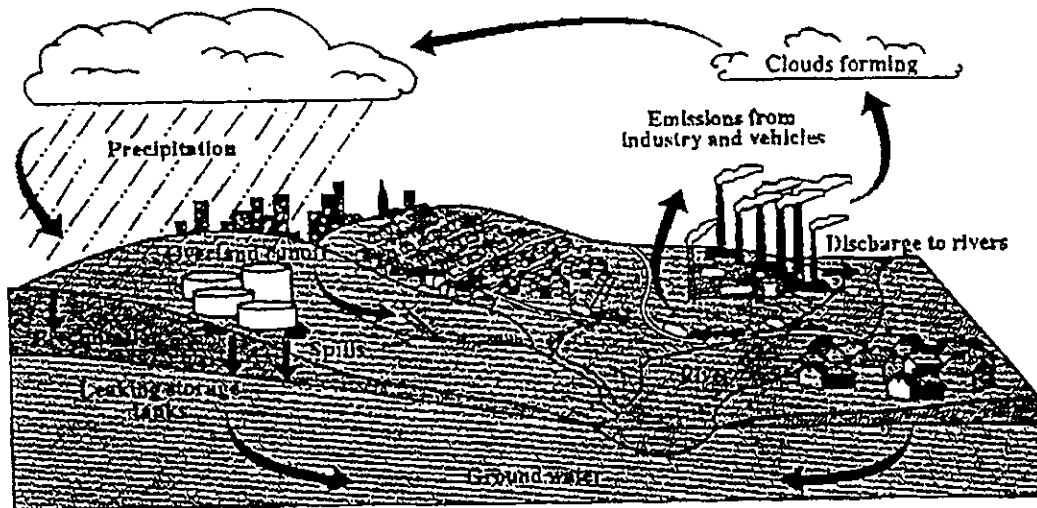


Figure 2. The movement of MTBE in the environment.

Do the concentrations of MTBE in ground water pose a threat to human health?

The EPA draft drinking water lifetime health advisory for MTBE is estimated to fall within the range of 20-200 µg/L. The health advisory is the maximum concentration in drinking water that is not expected to cause any adverse effects over a lifetime of exposure, with a margin of safety. EPA expects to issue the final health advisory in the fall of 1995. EPA tentatively classifies MTBE as a possible human carcinogen. MTBE is also on the EPA's Drinking Water Priority List which means it is a possible candidate for future

regulation. There are no current Federal regulations that require municipalities to test for MTBE in drinking water.

The water sampled by U.S. Geological Survey scientists was located near the top of the water table and is the ground water most likely to show contamination from sources at the land surface. In seven of the eight urban areas studied, the sampled ground water is the uppermost part of an aquifer used for drinking water or is possibly connected to an underlying aquifer, which is used as a municipal water supply.

None of the urban wells sampled were being used as a source of drinking water. In general, public water supplies draw water from deeper parts of the ground water system

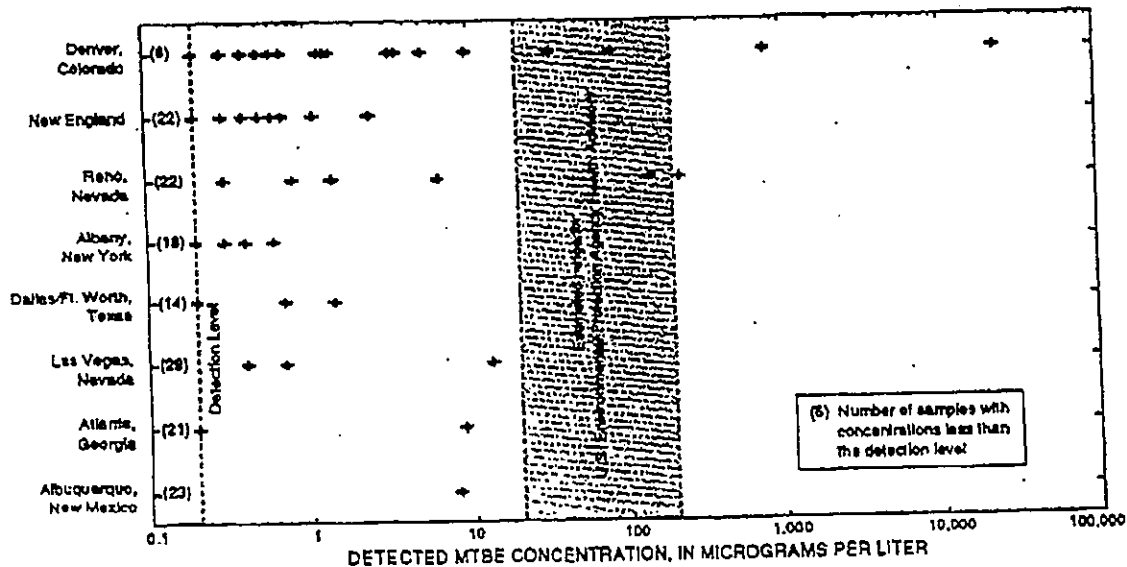


Figure 3. The concentrations of MTBE in each of the eight urban study areas.

TS1 003543

MAR 31 '95 15:14

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PAGE.005

83/31/95 16:16:43 VIA FAX

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Page 886

FROM: AP:--HESD WASH DC

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MAR 31, 1995

4:26PM

#840 P.06

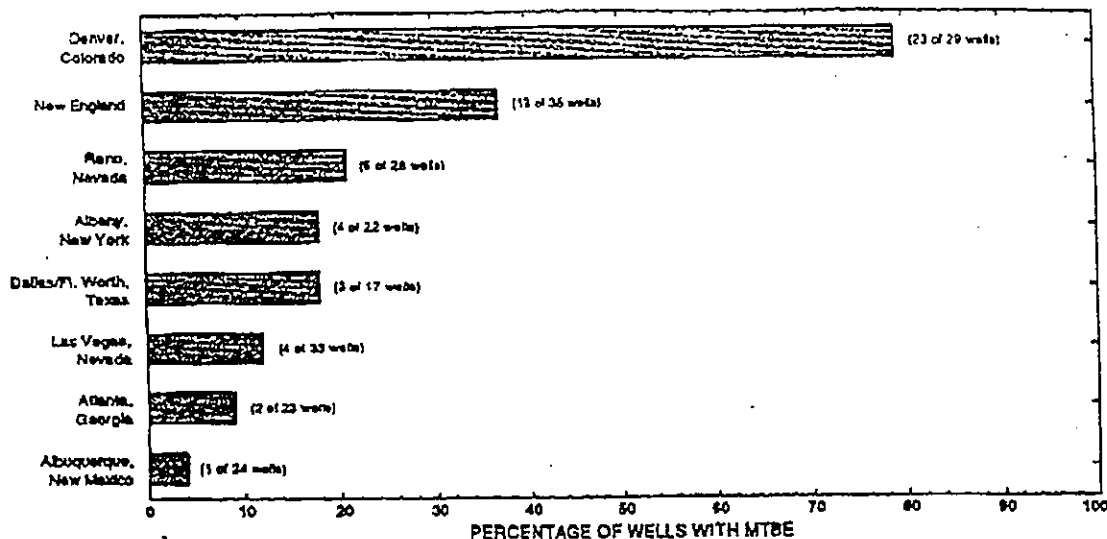


Figure 4. The frequency of detection of MTBE for each urban study area.

and there are few data showing concentrations of MTBE at these deeper depths. Of the urban monitoring wells tested, about 24 percent had concentrations of MTBE ranging from 0.2 to 20.0 µg/L, and 3 percent had concentrations exceeding 20.0 µg/L.

What are the implications of this study?

NAWQA data show that MTBE is found predominantly in shallow ground water in urban areas; however, many questions need to be answered. For example:

- (1) Can MTBE in shallow ground water be traced to non-point mobile sources, such as vehicle emissions? Alternatively, how much MTBE in shallow ground water is due to point-source spills or leaking underground storage tanks?
- (2) Do other fuel oxygenates occur in shallow ground water in urban areas?
- (3) What is the fate of MTBE and other possible oxygenates in shallow ground water; will these oxygenates degrade over time due to natural processes, or will they accumulate in ground water?
- (4) What are the concentrations of MTBE and other oxygenates in the air, in precipitation, and in surface water in urban areas? Is MTBE transported to ground water by infiltration of precipitation?

The U. S. Geological Survey will be working on these questions in cooperation with city and state organizations, and other Federal agencies.

Suggestions for further reading

Leahy, P.P., and Thompson, T.J., 1994, U. S. Geological Survey National Water-Quality Assessment Program: U. S. Geological Survey Open-File Report 94-70, 4 p.

Mormille, M.R., Liu, Shi, and Suffita, J.M., 1994, Anaerobic biodegradation of gasoline oxygenates—extrapolation of information to multiple sites and redox conditions: *Environmental Science and Technology*, v. 28, no. 9, p. 1727-1732.

Merch, 1995

Reichhardt, Tony, 1995, A new formula for fighting urban ozone: *Environmental Science and Technology*, v. 29, no. 1, p. 36A-41A.

Government of Canada, 1992, Canadian Environmental Protection Act. Priority substances list, assessment report no. 5, methyl tertiary-butyl ether: Ottawa, Canada, 19 p.

Moolenaar, R.L., Hefflin, B.J., Ashley, D.L., Middaugh, J.P., and Etzel, R.A., 1994, Methyl tertiary butyl ether in human blood after exposure to oxygenated fuel in Fairbanks, Alaska: *Archives of Environmental Health*, v. 49, no. 5, p. 402-409.

U.S. Environmental Protection Agency, 1994, Health Risk Perspectives on Fuel Oxygenates. Office of Research and Development; EPA report no. EPA/600/R-94/217, Washington, D.C.

U.S. Environmental Protection Agency, 1993, Assessment of Potential Health Risks of Gasoline Oxygenated with Methyl Tertiary Butyl Ether (MTBE), Office of Research and Development; EPA report no. EPA/600/R-93/206, Washington, D.C.

—Paul J. Squillace, Darryl A. Pope, and Curtis V. Price
Information on technical reports and hydrologic data related to NAWQA can be obtained from:
NAWQA VOC National Synthesis
U.S. Geological Survey, WRD
1608 Mt. View Rd.
Rapid City, SD 57702

Additional information on NAWQA and other U.S. Geological Survey programs can be found by accessing the NAWQA "home page" on the World Wide Web at "http://www.wrres.er.usgs.gov/nawqa/nawqa_home.html."

Additional information on health effects of MTBE and drinking water regulations can be obtained by calling EPA's Safe Drinking Water Hotline 1-800-426-4791.

U.S. Geological Survey, Fact Sheet FS-114-85

TS1 003544

MAR 31 '95 15:15

VIA FAX

PAGE.006

03/31/95 16:17:33 VIA FAX

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713 293 3385 meyers, jeff

Page 007

FROM: API-HESD WASH DC

TO:

VIA XPEDITE

MAR, 31, 1995 4:07PM HB40 P.07

MTBE data from Agricultural Studies
 MTBE data from 20 Agricultural Land-Use Studies

MTBE DATA

To see the MTBE data for a particular study click on the study name in the table below.

Note: Latitude and Longitude coordinates are of variable accuracy.
 For more information about these data, contact the individual listed at the end of each group of concentration data.

Study Name	Number of wells where MTBE was detected	Number of wells sampled	Percent of wells where MTBE was detected
Appalachicola Chattahoochee Basin	0	32	0
Albemarle-Pamlico	0	20	0
Central Columbia Plateau #1	0	45	0
Central Columbia Plateau #2	0	21	0
New England (CT-MA-VT)	2	22	9
Florida- Georgia	0	23	0
Lower Susquehanna River Basin	4	30	13
Potomac River Basin	0	17	0
Rio Grande River Basin #1	0	20	0
Rio Grande River Basin #2	1	35	3
San Joaquin-Tulare #1	0	20	0
San Joaquin-Tulare #2	0	20	0
South Platte	0	30	0
Upper Snake River Basin #1	0	31	0
Upper Snake River Basin #2	0	28	0
Upper Snake River Basin #3	0	30	0
Willamette River Basin #1	0	15	0
Willamette River Basin #2	0	26	0
Western Lake Michigan #1	0	28	0
Western Lake Michigan #2	0	30	0
	7	524	1.3

Appalachicola Chattahoochee Basin Agricultural Land-Use Study

USGS station number	Latitude	Longitude	Date	MTBE concentration (micrograms per Liter)
305641084542001	305641	845420	1993.08.26	Appalachicola Chattahoochee Basin NAWQA

David Wangsness, NAWQA Chief
 U.S. Geological Survey
 Georgia District
 (404) 903-9100
 Return to summary of MTBE data

- 1 -

TS1 003545

MAR 31 '95 15:16

VIA FAX

PAGE.007

03/31/95 16:18:14 VIA FAX

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713 293 3385 meyers, jeff

Page 888

FROM: API-HESD WASH DC

TO:

VIA XPEDITE

MAR 31, 1995 4:07PM #840 P.08

NAWQA VOC National Synthesis
Recommended Target VOC Analytes (3/16/95)

**ANALYTES IN
USGS STUDY**

These VOCs have been chosen for study for FY 96-98. This list is currently being reviewed for analytical feasibility.

Cas #	Compound	On (USGS Lab) Schedule 2090
56-23-5	TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	Yes
67-66-3	TRICHLOROMETHANE (CHLOROFORM)	Yes
67-72-1	HEXACHLOROETHANE	No
74-83-9	BROMOMETHANE	Yes
74-87-3	CHLOROMETHANE	Yes
75-09-2	DICHLOROMETHANE (METHYLENE CHLORIDE)	Yes
75-25-2	TRIBROMOMETHANE (BROMOFORM)	Yes
75-27-4	BROMODICHLOROMETHANE	Yes
78-87-5	1,2-DICHLOROPROPANE	Yes
79-00-5	1,1,2-TRICHLOROETHANE	Yes
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	Yes
96-18-4	1,2,3-TRICHLOROPROPANE	Yes
106-93-4	1,2-DIBROMOETHANE (EDB)	Yes
107-06-2	1,2-DICHLOROETHANE	Yes
124-48-1	DIBROMOCHLOROMETHANE	Yes
75-01-4	CHLOROETHENE (VINYL CHLORIDE)	Yes
77-47-4	1,2,3,4,5,5-HEXACHLORO-1,3-CYCLOPENTADIENE	No
79-01-6	TRICHLOROETHENE	Yes
87-68-3	1,1,2,3,4,4-HEXACHLORO-1,3-BUTADIENE	Yes
50-00-0	FORMALDEHYDE	No
593-60-2	BROMOETHENE	No
10061-01-5	CIS-1,3-DICHLORO-1-PROPENE	Yes
10061-02-6	TRANS-1,3-DICHLORO-1-PROPENE	Yes
71-43-2	BENZENE	Yes
91-20-3	NAPHTHALENE	Yes
108-90-7	CHLOROBENZENE	Yes
120-82-1	1,2,4-TRICHLOROBENZENE	Yes
608-93-5	PENTACHLOROBENZENE	No
107-02-8	ACROLEIN	No
107-30-2	CHLOROMETHYL METHYL ETHER	No
123-91-1	1,4-DIOXANE	No
505-60-2	BIS(2-CHLOROETHYL) SULFIDE	No
111-44-4	BIS(2-CHLOROETHYL) ETHER	No
542-88-1	BIS(CHLOROMETHYL) ETHER	No
79-06-1	ACRYLAMIDE	No
107-13-1	2-PROPENENITRILE (ACRYLONITRILE)	No
71-55-6	1,1,1-TRICHLOROETHANE	Yes
75-34-3	1,1-DICHLOROETHANE	Yes
75-35-4	1,1-DICHLOROETHENE	Yes
75-69-4	TRICHLOROFLUOROMETHANE (CFC 11)	Yes
95-47-6	1,2-DIMETHYLBENZENE (O-XYLENE)	Yes
95-50-1	1,2-DICHLOROBENZENE	Yes
100-41-4	ETHYLBENZENE	Yes
106-42-3	1,4-DIMETHYLBENZENE (P-XYLENE)	Yes
108-38-3	1,3-DIMETHYLBENZENE (M-XYLENE)	Yes
108-88-3	METHYLBENZENE (TOLUENE)	Yes
98-82-8	CUMENE (ISOPROPYLBENZENE)	Yes

- 1 -

TS1 003546

MAR 31 '95 15:17

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713 293 3385 meyers, jeff

Page 889

FROM:API-HESD WASH DC

TO:

VIA XPEDITE

MAR 31, 1995 4:08PM #840 P.09

103-65-1	n-PROPYLBENZENE	Yes
104-51-8	n-BUTYLBENZENE	Yes
127-18-4	TETRACHLOROETHENE	Yes
156-59-2	CIS-1,2-DICHLOROETHENE	Yes
156-60-5	TRANS-1,2-DICHLOROETHENE	Yes
75-00-3	CHLOROETHANE	Yes
75-71-8	DICHLORODIFLUOROMETHANE (CFC 12)	Yes
95-63-6	1,2,4-TRIMETHYLBENZENE	Yes
100-42-5	STYRENE (VINYL BENZENE)	Yes
106-46-7	1,4-DICHLOROBENZENE	Yes
1634-04-4	METHYL TERT-BUTYL ETHER (MTBE)	Yes
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE (CFC 113)	Yes
87-61-6	1,2,3-TRICHLOROBENZENE	Yes
541-73-1	1,3-DICHLOROBENZENE	Yes
637-92-3	ETHYL TERT-BUTYLETHER (ETBE)	No
994-05-8	tert-PENTYL METHYL ETHER (TAME) or (tert-AMYL METHYL ETHER)	No

This page is maintained by Curtis Price <cprice@usgs.gov>;

Last modified: Wed Mar 29 12:15:45 1995

The URL for this page is

<http://sv02dsdhrn.cr.usgs.gov/nawqa/vocns/voc_targets.html>;.

EXHIBIT 34

BINGHAM McCUTCHEON



Diana Pfeffer Martin
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October 17, 2005

VIA U.S. MAIL AND LEXIS NEXIS FILE AND SERVE

Bingham McCutchen LLP
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Silicon Valley
Tokyo
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Washington

Robin L. Greenwald, Esq.
Weitz & Luxenberg
180 Maiden Lane, 17th Floor
New York, New York 10038

**Re: MDL 1358 -- Tesoro October 2005 Response to
Trade Organization Information**

Dear Ms. Greenwald:

Consistent with the Court's directive at the August 12, 2005 Status Conference, and in your capacity as plaintiffs' liaison counsel, this letter provides information on the Tesoro defendants' membership in major trade organizations that were involved with MTBE, ethanol, underground storage tanks, the LUST program and/or RFG issues.¹ The Tesoro defendants have no records of participation in any committees within these trade associations that were established specifically to address any of these topics.

Western States Petroleum Association ("WSPA"): Based on available records, Tesoro has been a member of WSPA since 1998.

National Petrochemical and Refiners Association ("NPRA"): Based on available information, Tesoro has been a member of NPRA since 1971.

Society of Independent Gasoline Marketers of America ("SIGMA"): Based on available records, Tesoro has been a member of SIGMA since 1999.

¹ Tesoro's September 12, 2005 submittal addressed its involvement with API, OFA and the MTBE Committee. Upon further records review, it appears that Tesoro has been a member of API since 1999. Tesoro also has records that reflect interactions with API between approximately 1993 and approximately 1997. Based on the available records, Tesoro cannot determine the nature of these interactions (e.g., whether they are memberships, payments for conferences or books, etc.).

Robin L. Greenwald
October 17, 2005
Page 2

Additionally, based on historic records that do not differentiate expenses (e.g., difference between membership and equipment purchase), Tesoro had involvement with SIGMA at some point between approximately 1992 and 1999.

National Petroleum Council ("NPC"): Based on available records, Tesoro had NPC membership between 1999 and 2003. Additionally, based on historic records that do not differentiate between expenses (e.g., differences between membership and equipment purchases), Tesoro had involvement with NPC at some point between approximately 1992 and 1999.

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Petroleum Equipment Suppliers Association ("PESA"): Based on available records, Tesoro had PESA membership between 1999 and 2003. Additionally, based on historic records that do not differentiate expense (e.g., difference between membership and equipment purchase), Tesoro had involvement with PESA in 1993.

Petroleum Equipment Services, Inc. ("PES"): Based on available records, Tesoro had a PES membership between approximately 2000 and 2004. Additionally, based on historic records that do not differentiate between expenses (e.g., differences between membership and equipment purchases), Tesoro had involvement with PES at some point between approximately 1992 and 1999.

Western Petroleum Marketers Association ("WPMA"): Based on available records, Tesoro has been a member of WPMA since 2000. Additionally, based on historic records that do not differentiate expenses (e.g., differences between membership and equipment purchases), Tesoro had involvement with WPMA in approximately 1993.

National Association of Convenience Stores ("NACS"): Based on available records, Tesoro had a NACS membership between approximately 2001 and 2004. Additionally, based on historic records that do not differentiate between expenses (e.g., differences between membership and equipment purchases), Tesoro had involvement with NACS at some point between approximately 1992 and 1999.

Miscellaneous: Based on records that do not differentiate expenses (e.g., difference between membership and equipment purchase), Tesoro had involvement with the following at some time between approximately 1992 and

Robin L. Greenwald
October 17, 2005
Page 3

1999 (specific date is unknown): American Institute of Chemical Engineers;
American Society for Testing and Materials; Society of Petroleum Engineers; and
Petroleum Equipment Suppliers.

Sincerely yours,

Bingham McCutchen LLP
bingham.com


Diana Pfeffer Martin

cc: All counsel via Lexis Nexis File Serve

Robin L. Greenwald
October 17, 2005
Page 4

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of MDL 1358 -- Tesoro October 2005 Response to Trade Organization Information was served upon all parties of record via LexisNexis File & Serve on October 17, 2005.

Bingham McCutchen LLP
bingham.com


Angie Rigor

EXHIBIT 35

1988 HEALTH AND ENVIRONMENTAL PROJECT PROPOSALS

ISSUE/TITLE: Motor Gasoline and Water Management
(Groundwater) Chemical Fate of Octane Enhancers in
Groundwater

OBJECTIVE: To determine the chemical characteristics and fate of
BTX and ether/Alcohol solutions under in-situ experimental
groundwater spill conditions. Specifically, plume delineation,
octane enhancer "cosolubility" characteristics, and
biodegradation will be investigated.

DRIVING FORCES/IMPACT: As a result of lead phase-down, octane
enhancers such as MTBE and various alcohols are increasingly being
used as substitutes for lead. There has recently been a dramatic
increase in regulatory interest/concern over these
alcohols/ethers in groundwater. Maine is considering banning the
use of MTBE. Without field data to address the concerns of the
regulatory community, regulatory action can be expected (probably
within a 1-3 year time frame.)

DESCRIPTION: This project would consist of groundwater field
studies, laboratory water quality analysis, a modest literature
review and report preparation. Data generated would include
characterization of plumes under water table conditions, the
degree to which selected alcohols/ethers act as cosolvents for
BTX compounds, and the nature of in-situ biodegradation of these
solutions.

POSSIBLE OUTCOMES AND CONSEQUENCES: The objectives of the
research can be accomplished, as has been well-demonstrated with
recent Task Force research on in-situ BTX plumes. The industry
segments most likely to benefit from the research are
refining/marketing. If the research is not conducted, there will
be few credible data to support industry's contention that such
octane enhancers do not constitute a significant new groundwater
contamination threat as constituents of gasoline.

ESTIMATED DURATION: 1-2 years

ESTIMATED BUDGET: \$125K

PRIOR COSTS: None

FUTURE COSTS: \$80K

SUBMITTED BY: Gene Mancini (ARCO)

#9:catchI

Ranked 1st

EQ-SH156 0034

EXHIBIT 30

NJDEP-MTBE-CONTENTION-000107

1998 HEALTH AND ENVIRONMENTAL PROJECT PROPOSALS

ISSUE/TITLE: Water Management/Fate, Transport, Impact of
Gasoline Containing Oxygenates in Groundwater

OBJECTIVE: Determine the relative chemical and physical effects,
if any, of gasoline containing oxygenates versus non-oxygenated
gasoline.

DRIVING FORCES/IMPACT: The groundwater impact of oxygenates in
gasoline is receiving ever increasing attention from regulators
at both the local and national levels. The State of Maine
currently regulates MTBE at a maximum contaminant level of 50
ppb; and in a recent paper, recommended that MTBE be banned from
underground storage or be contained in double wall tanks. The
impact of MTBE is also being addressed by the state agencies and
the EPA is considering studies on its chronic health effects.

DESCRIPTION: Oxygenates are highly soluble and mobile in water
relative to BTX and difficult to treat using conventional
technology. API is currently engaged in studies documenting the
occurrence and removal of gasoline containing MTBE and evaluating
the ability of air stripping and activated carbon to achieve low
ppb treatment levels. Additional work is needed, initially at
the laboratory scale, to understand the relative impact of
oxygenates in the saturated and unsaturated zones. In
particular, their relative impact on solubility and transport
phenomena on gasoline constituents should be investigated.

POSSIBLE OUTCOMES AND CONSEQUENCES: Development of data
providing a better understanding of oxygenates in groundwater
which can be used to respond to regulatory agencies considering
the promulgation of more stringent environmental regulations
governing oxygenates i gasoline.

ESTIMATED DURATION: 1 year

ESTIMATED BUDGET: \$75K

PRIOR COSTS: \$130,000

FUTURE COSTS: \$50K

SUBMITTED BY: W. A. Stone (Exxon)

#2:catchI

Ranked 1st

EXHIBIT

3/

EQ-SH156 0035

NJDEP-MTBE-CONTENTION-000108

EXHIBIT 36

EXHIBIT 36

IN THE SUPERIOR COURT FOR THE STATE OF CALIFORNIA
IN AND FOR THE COUNTY OF MERCED

-oOo-

CITY OF MERCED,
Plaintiff,

vs.

CHEVRON U.S.A., INC.; SHELL OIL
COMPANY; EXXONMOBIL CORPORATION;
EXXON CORPORATION; KINDER MORGAN
ENERGY PARTNERS L.P.; EQUILON
ENTERPRISES LLC; SFPP, L.P. and
DOES 1 THROUGH 200, inclusive,

Defendants.

Case No. 148451

COPY

DEPOSITION OF BRIAN PAZIN

August 25, 2009 at 9:00 (9:08) a.m.

Before: ERIC L. JOHNSON

RPR, CSR #9771

Taken at:

Merced, California

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Deposition of Brian Pazin / August 25, 2009

1 MR. TEMKO: Bill Temko from Munger, Tolles &
2 Olson, and I represent Shell.

3 MS. STANDIFER: Rose Standiford from Reed Smith
4 and I represent defendants Kinder Morgan Energy Partners
5 and SFPP.

6 MS. VANDERLAAN-SMITH: Nicole Vanderlaan-Smith
7 from Latham & Watkins and I represent defendant
8 ConocoPhillips Company.

9 THE VIDEOGRAPHER: Will the court reporter
10 please swear in the witness.

11 BRIAN PAZIN,
12 the Witness herein, having been duly and regularly sworn
13 by the Certified Shorthand Reporter, deposed and
14 testified as follows:

15 EXAMINATION BY MR. MILLER

16 MR. MILLER: Q. For the record, could we have
17 your name and business address, please.

18 A. Brian David Pazin, 129 West 15th Street,
19 Merced, California, 95340.

20 Q. By whom are you employed?

21 A. Cardgas, Incorporated.

22 Q. And when did you first go to work for them?

23 A. November of -- I believe of 1986.

24 MR. CORRELL: I believe you said you had a
25 statement you wanted to put on the record.

Deposition of Brian Pazin / August 25, 2009

1 MR. MILLER: I was going to get to that, don't
2 worry.

3 Q. And are you currently employed by them?

4 A. Yes, I am the owner.

5 Q. Okay. I understand that you are on some
6 medication; is that correct?

7 A. Yes. I take blood pressure medicine and
8 anxiety medicine.

9 Q. I don't want to get into personal details, but
10 have you been taking your medicine for a number of
11 years?

12 A. Approximately about two years.

13 Q. Okay. Do you believe that you can give us your
14 best testimony this morning, despite the medication?

15 A. Yes.

16 Q. If you are having a problem at any time, for
17 any reason, I would like you to let us know, because we
18 want to give you a break or do whatever else may help,
19 so that you don't have a problem that interferes with
20 your ability to give a good deposition. Will you
21 promise to let us know?

22 A. Yes.

23 Q. Is there anything else that you needed to put
24 on the record before we get started this morning?

25 A. No, sir.

Deposition of Brian Pazin / August 25, 2009

1 it was in in 1986 when you started working there.

2 Are you generally familiar with the features of
3 the station at that time?

4 A. I am sorry. I don't understand that question.

5 Q. All right. Was the underground storage tanks
6 present in 1986 when you started working at Cardgas --
7 were they single walled steel tanks?

8 MS. VANDERLAAN-SMITH: Lacks foundation.

9 THE WITNESS: Yes.

10 MR. MILLER: Q. And when you started in 1986,
11 were you selling gasoline and diesel products?

12 A. Yes.

13 Q. Did you have more than one grade of gasoline?

14 A. Yes.

15 Q. Did you sell premium gasoline?

16 A. Yes.

17 Q. Throughout the entire time that you have been
18 either employed by or owned that Cardgas facility, have
19 they purchased all of their gasoline through Pazin Oil
20 Company in the beginning and then Pazin & Myers, Inc.,
21 when it was formed later?

22 A. To my knowledge, yes.

23 Q. Are you familiar with the concept of placing a
24 containment device under a dispenser so that if gasoline
25 is released from the plumbing or some other part, it can

Deposition of Brian Pazin / August 25, 2009

1 Did anyone give you any special training or
2 instruction on MTBE and its potential to cause
3 contamination, prior to the time those tanks were
4 removed?

5 A. No.

6 Q. Did anyone talk to you about how MTBE can
7 contaminate water supplies in wells before that time?

8 A. No.

9 Q. Did anybody talk to you about the kinds of
10 problems that can be created if MTBE gets in a well?

11 A. No.

12 Q. Did anybody discuss with you the need to take
13 prompt action to clean up a release if MTBE is involved,
14 because if you don't it moves further and faster than
15 the rest of the gasoline?

16 A. No.

17 MR. CORRELL: Objection; assumes facts not in
18 evidence.

19 MR. MILLER: Q. Did anyone talk to you about
20 the need to seal every crack in the pavement near your
21 dispensers because if the customer spilled some fuel it
22 could cause contamination problems with MTBE?

23 MR. CORRELL: Objection; assumes facts not in
24 evidence.

25 THE WITNESS: No.

1 Q. To the best of your recollection, did you ever
2 observe any, you know, puddles or spills of gasoline?

3 A. No.

4 Q. Okay. And if you had, would it -- based on
5 your operations at the business, would you have cleaned
6 that up?

7 A. Yes.

8 MR. MILLER: Speculation.

9 MS. VANDERLAAN-SMITH: Q. Is it your
10 understanding that if you had a leak of gasoline or
11 there were a gasoline spill, that that would have the
12 potential to affect the environment?

13 A. Yes.

14 Q. And that would be so, regardless of whether the
15 gasoline had MTBE in it or not?

16 A. Correct.

17 Q. Have you heard of a material safety data sheet?

18 A. Yes.

19 Q. Okay. Those are sometimes referred to as
20 MSDS's?

21 A. Mm-hmm.

22 Q. Do you know, during the time that you have been
23 involved with the Cardgas station, have you ever
24 received MSDS's?

25 A. No.

Deposition of Brian Pazin / August 25, 2009

1 Q. How is it that you became familiar with that
2 term? How do you know what that is?

3 A. Because I also am employed by Pazin & Myers.

4 Q. Okay?

5 A. So we know about MSDS sheets through thinner or
6 solvents, or if a customer needs an MSDS sheet for
7 another product.

8 Q. And in conjunction with your work for Pazin &
9 Myers, have you ever seen MSDS's?

10 A. Yes.

11 Q. Okay. And in what context would you generally
12 receive those?

13 A. I don't know -- can you repeat that?

14 Q. I guess you had said that you seen the MSDS's?

15 A. I have seen the sheets.

16 Q. Just seen the sheets?

17 A. Yeah.

18 Q. Why would you come to see those? Would someone
19 hand them to you or would you --

20 A. Maybe the secretary would say, "Would you
21 deliver this to a customer? They want this MSDS sheet."
22 I would take it to whatever customer.

23 Q. Okay. What was your role with Pazin & Myers?

24 A. I can just basically, you know, drive a route
25 truck, or if somebody comes in and wants some oil, it is

1 kind of a dual thing for me. It is our name on the gate
2 so, I mean, I am, you know, employed there. I have a
3 class B license, so in case I need to get on the truck
4 and deliver fuel, I can do that.

5 Q. Okay. And I guess -- do you know if -- let me
6 think about how to phrase this.

7 So on occasion the secretary would ask you to
8 deliver an MSDS to a customer. Correct?

9 A. Yeah.

10 Q. And she never asked you to deliver one to
11 yourself as owner of the Cardgas?

12 A. No.

13 Q. Because that would be kind of silly, right?

14 A. Right.

15 MS. VANDERLAAN-SMITH: All right. Those are
16 all the questions that I have. Thank you.

17 THE WITNESS: Thank you.

18 MS. STANDIFER: Do you have any?

19 MS. JONES-ROY: I don't have any.

20 EXAMINATION BY MS. STANDIFER

21 MS. STANDIFER: All right.

22 Q. Good afternoon, Mr. Pazin. Rose Standifer. I
23 represent Kinder Morgan and SFPP.

24 So first, have you ever heard of Kinder Morgan?

25 A. Yes.

Deposition of Brian Pazin / August 25, 2009

1 STATE OF CALIFORNIA)
2 COUNTY OF STANISLAUS) ss.

3 I, ERIC L. JOHNSON, do hereby certify that I am a
4 licensed Certified Shorthand Reporter, duly qualified
5 and certified as such by the State of California;

6 That prior to being examined, the witness named in
7 the foregoing deposition was by me duly sworn to testify
8 to tell the truth, the whole truth, and nothing but the
9 truth;

10 That the said deposition was by me recorded
11 stenographically at the time and place herein mentioned;
12 and the foregoing pages constitute a full, true,
13 complete and correct record of the testimony given by
14 the said witness;

15 That I am a disinterested person, not being in any
16 way interested in the outcome of said action, or
17 connected with, nor related to any of the parties in
18 said action, or to their respective counsel, in any
19 manner whatsoever.

20

21 DATED: September 4, 2009

22

23

24

25



Eric L. Johnson, CSR, RPR

EXHIBIT 37

American Petroleum Institute
1220 L Street, Northwest
Washington, D.C. 20005
202-682-8000



David H. Chen, Ph.D.
Sr. Environmental Scientist
(202) 682-8343

Date: February 16, 1988

From: David H. Chen

To: GROUNDWATER TECHNICAL TASK FORCE (GWTTF)

Subject: 1989 Groundwater Research Proposals

Attached please find the six individual project writeups in the rank order proposed for the 1989 research program following our discussion at the January GWTTF meeting. For clarity and consistency, some modifications were made to each of the original project writeups as submitted by the authors. The present versions are included in the 1989 Wastes Research Program to be reviewed by the Environmental Technology Research Group this week.

Because of the heavy demands placed on the 1989 research funds, and the competitiveness of the individual submittals in the wastes program overall, it will be difficult to predict how each of the groundwater research projects will fare. Needless to say adjustments will have to be made to accommodate various needs identified.

Attachments

cc: J. Shaw (memo only)
D. Persons

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EXHIBIT

17

EQ-SH156 0510

NJDEP-MTBE-CONTENTION-000071

1989 HEALTH AND ENVIRONMENTAL PROJECT PROPOSALS

ISSUE/TITLE: Waste Management/Impact Of Gasoline-Containing Oxygenates On Groundwater Contamination ☒

OBJECTIVE: A two-year program to investigate the fate and transport characteristics of gasoline-oxygenate blend in groundwater. The study will assess the validity of claims that spills of these blends cause an increased solubility of BTEX hydrocarbons in groundwater, resulting in their moving faster and further than in the absence of oxygenates. This is a two-year continuation of a 1988 project (GW-16).

DRIVING FORCES/IMPACT: The impact of oxygenates (e.g., methyl tertiary butyl ether (MTBE), ethanol, and methanol) on gasoline/groundwater interactions is receiving increasing regulatory attention at state and federal levels. In a paper by State of Maine officials which received nationwide publicity, the officials called for either banning of oxygenated gasolines or stricter requirements that they be stored in double-walled tanks. The claims were that the oxygenates increase the dissolved hydrocarbon plume (BTEX and oxygenate), and it travels much faster than a plume without oxygenate. At present, industry has no scientific data to refute these claims. With recent interest in use of alcohol blends to reduce air pollution, it is even more imperative that the fate and transport of oxygenate plumes be legitimately documented.

DESCRIPTION: The 1988 project includes complementary laboratory and in-situ field studies designed to determine the impact of gasoline-oxygenate blends to groundwater. The effects of oxygenates on the solubility of BTEX constituents in groundwater will be measured in the laboratory (Phase I). In mid-1988, field injections of one or two gasoline-oxygenate blends (e.g., MTBE and methanol) will be conducted to assess plume behavior and mobility under water table conditions (Phase II). An injection of reference, non-oxygenated gasoline will also be done. The fate and transport of BTEX and oxygenates will be monitored through the Fall of 1989. In order to complete the 2nd year of study monitoring the plumes and comparing the oxygenate plumes to the reference plume, 1989 funds are requested.

POSSIBLE OUTCOME & CONSEQUENCES: This study will provide industry with timely information to respond to regulatory initiatives (Phase I report due Jan. 89, Phase II report due Feb. 90). There is a downside risk that the results may show that oxygenates, to some extent, increase groundwater contamination problems from gasoline leaks and spills. In this event, industry will be knowledgeable about the range of impacts to expect from gasoline-oxygenate blends, better equipped to formulate strategies for cleanup, and in a stronger proactive rather than reactive position.

ESTIMATED DURATION: 1 year

ESTIMATED BUDGET: \$140,000

PRIOR COSTS: \$100,000

FUTURE COSTS: Unknown

SUBMITTED BY: Dorothy Keech
Groundwater Technical Task Force

ANSWER: DC2/P-6

EQ-SH156 0511

NJDEP-MTBE-CONTENTION-000072

EXHIBIT 38

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK**

**In re: Methyl Tertiary Butyl Ether ("MTBE")
Products Liability Litigation**

This Document Relates To:

*City of Merced Redevelopment Agency, et al. v. Exxon
Mobil Corp., et al.*, 1:08-cv-06306

CITY OF MERCED REDEVELOPMENT AGENCY
and MERCED DESIGNATED LOCAL AUTHORITY,
AS SUCCESSOR AGENCY TO THE
REDEVELOPMENT AGENCY OF THE CITY OF
MERCED,

Plaintiffs,

v.

EXXON MOBIL CORPORATION; EXXON
CORPORATION; CHEVRON U.S.A. INC.; SHELL
OIL COMPANY; EQUILON ENTERPRISES LLC;
TESORO CORPORATION; TESORO REFINING
AND MARKETING COMPANY; and DOES 1
THROUGH 200, inclusive,

Defendants.

**Master File No. 1:00-1898
MDL 1358 (SAS)
M21-88**

Hon. Shira A. Scheindlin

Transferred from:
United States District Court,
Eastern District of California
Case No. 1:08-cv-00714

Removed from:
Superior Court of California,
County of Merced
Case No. 151145

**FIRST AMENDED COMPLAINT
FOR DAMAGES AND OTHER
RELIEF FOR:**

**(1) COST RECOVERY UNDER
THE POLANCO
REDEVELOPMENT ACT;
(2) PRODUCTS LIABILITY;
(3) NEGLIGENCE;
(4) TRESPASS; AND
(5) NUISANCE**

JURY TRIAL DEMANDED

public drinking water because of MTBE's threat to public health.

19. TBA also presents a significant threat to public health. The State of California has set an action level for TBA of 12 ppb in water, based on an interim assessment performed by the California Office of Environmental Health Hazard Assessment. The interim assessment concluded that exposure to TBA at levels above 12 ppb in water creates an unacceptable public health risk of cancer.

20. California Governor Gray Davis ordered state agencies to phase out MTBE use in motor fuel in California, and to achieve 100% removal no later than December 31, 2003. Eighteen states, including California, have either banned or are phasing out the use of MTBE in gasoline.

C. Defendants' Promotion of MTBE and TBA.

21. The Defendants promoted the use of gasoline containing MTBE and/or TBA by claiming that it was environmentally beneficial and would improve air quality. At the same time, Defendants concealed and/or failed to disclose that MTBE would contaminate groundwater and render it not potable.

22. The widespread problems of leaking gasoline delivery systems were well known to the Defendants prior to the introduction of MTBE and TBA. At least as early as the mid-1960's these Defendants knew, or reasonably should have known, that gasoline delivery systems frequently leak and release gasoline into the environment, including into groundwater.

23. Despite knowing that a substantial percentage of Merced gasoline stations would utilize gasoline storage and distribution facilities which were inadequate and leaking, and

without taking reasonable, appropriate, or special measures to monitor, detect, and respond to releases of MTBE and/or TBA to soil and/or groundwater, and without taking reasonable, appropriate, or special precautions to investigate, contain, and cleanup releases of these compounds, and despite the availability of reasonable alternatives (including adequate warnings), Defendants chose not to warn customers, retailers, environmental consultants, regulators, or public officials, including Plaintiffs. At all times, Defendants represented to purchasers of MTBE, TBA, and/or gasoline containing MTBE and/or TBA, as well as to the public and government agencies, that such products were environmentally sound and appropriate for distribution, sale, and use. Indeed, Defendants represented that gasoline containing MTBE could be handled the same as ordinary gasoline, and required no special measures to protect against or respond to suspected releases to the subsurface.

24. The Defendants further exacerbated the situation by, among other things, negligently, carelessly, recklessly, and/or intentionally failing to: (1) prevent leaks of MTBE and/or TBA through the use of appropriate technology; (2) install and maintain gasoline delivery systems that prevent leaks and facilitate prompt detection and containment of any leaks; (3) monitor and discover leaks as soon as possible; (4) warn those who may be injured as a result of the leak(s); and (5) clean up and abate MTBE and/or TBA spill(s) as thoroughly and as soon as reasonably possible and in a manner necessary to prevent harm and injury.

25. Plaintiffs are informed the Defendants exercised control over use of gasoline containing MTBE and/or TBA through a variety of means, including written agreements, inspection rights, prescribing certain procedures and operating practices, training, sale of branded

goods, and agreements obligating the users of MTBE and/or TBA to acquire, store, and sell gasoline containing MTBE and/or TBA. Therefore, the Defendants had actual control over leaking gasoline delivery systems and/or were vicariously liable for the acts, omissions, and conduct of the owners and operators of Merced gasoline stations and pipelines which released MTBE into the environment.

26. The Defendants further advised consultants who conduct environmental investigations and cleanups that gasoline with MTBE could be remediated using the same practices and procedures used for conventional gasoline.

27. Gasoline containing MTBE and/or TBA was released from gasoline delivery systems in Merced until at least 1997 from gasoline retail stations and, Plaintiffs are informed, a pipeline operated by Kinder Morgan and SFPP. Over time, MTBE and TBA migrated down to groundwater and, after several years elapsed, traveled to the project area causing pollution, contamination, and interference with the Plaintiffs' project area. This appreciable injury and damage occurred for the first time in July 2006, when the Regional Water Quality Control Board determined that the parties responsible for releases at 1415 "R" Street and 1455 "R" Street in Merced were not taking appropriate and timely action to abate the plume, and the Plaintiffs were asked to manage the project.

28. The Plaintiffs seek compensatory damages needed to investigate, remediate, and remove gasoline, hydrocarbons, MTBE and/or TBA contamination, and for past, present, and future remediation, and/or investigation costs incurred in or after August 2006.

52. For the reasons alleged herein, Plaintiffs are entitled to an award of exemplary damages against defendants Chevron, Shell, Exxon Mobil, Exxon, Equilon, and DOES 1 through 50. After the completion of additional investigation and discovery, Plaintiffs may seek leave of court to amend this complaint to allege a claim for exemplary damages against additional defendants if warranted by the facts.

FOURTH CAUSE OF ACTION

(Trespass Against All Defendants)

53. Plaintiffs refer to paragraphs 1 through 52 above, and by this reference incorporate them into this cause of action as though fully set forth herein.

54. Plaintiffs are the owner and/or actual possessor of property rights and interests. Defendants, their agents and employees, knew, or in the exercise of reasonable care should have known, that MTBE and TBA and gasoline containing MTBE and/or TBA are extremely hazardous to groundwater and to public water systems, including the property and other rights of the Plaintiffs.

55. The Defendants so negligently, recklessly, and/or intentionally released, spilled, and/or failed to properly control, handle, store, contain, and use gasoline containing MTBE and/or TBA, and/or failed to clean up spills and leaks of gasoline containing MTBE and/or TBA, that they directly and proximately caused MTBE and/or TBA to contaminate Plaintiffs' project area as follows:

- (a) The Defendants participated in the use, storage, and release of gasoline containing MTBE and/or TBA by owning, controlling, regulating, constructing, installing,

operating, monitoring, inspecting, and testing, or by failing to do so, the gasoline delivery systems and thereby proximately caused gasoline containing MTBE and/or TBA to be released into the environment and groundwater.

- (b) The Defendants negligently provided instructions and/or warnings to their customers and others concerning MTBE and/or TBA, knowing that there was a substantial danger that if their instructions and/or warnings were followed that gasoline containing MTBE and/or TBA dispensed into gasoline delivery systems would escape into the environment and contaminate groundwater and would not be appropriately remediated.
- (c) The Defendants negligently delivered (directly or indirectly) gasoline containing MTBE and/or TBA into gasoline delivery systems which they knew, or should have known, were inadequate, old, leaking, and/or defective, and thereby created a substantial known danger that MTBE and TBA would be released into the environment and contaminate groundwater; and negligently provided instructions and/or warnings to their customers and others concerning MTBE and TBA, knowing that there was a substantial danger that if their instructions and/or warnings were followed that gasoline containing MTBE and/or TBA dispensed into gasoline delivery systems would escape into the environment and contaminate groundwater.
- (d) Defendants retained consultants and negligently controlled and/or directed their cleanup and remediation activities (or the lack thereof) at gasoline station sites,

thereby causing and permitting MTBE and/or TBA to contaminate and threaten Plaintiffs' project area, and Defendants failed to warn the appropriate entities and individuals, including Plaintiffs, of known risks, spills, releases, and/or leaks, and/or failed to undertake reasonable, appropriate, or necessary action to reduce, remediate, or abate MTBE and/or TBA groundwater contamination.

- (e) Defendants and their agents negligently overfilled gasoline delivery systems with gasoline containing MTBE and/or TBA, and/or spilled or released it at gasoline facilities near Plaintiffs' project area.
- (f) When Defendants learned, or reasonably should have learned, that MTBE and/or TBA were persistent, significant, and/or widespread sources of groundwater contamination, or threatened to be so, Defendants failed to warn the appropriate entities and individuals, including Plaintiffs, of known risks, spills, releases, and/or leaks, and/or failed to undertake reasonable, appropriate, or necessary action to reduce, remediate, or abate MTBE and/or TBA groundwater contamination.

56. Defendants had actual control over Merced gasoline stations through a variety of means, including, but not limited to, written agreements, inspection rights, prescribing certain procedures and operating practices, sale of branded goods, agreements obligating the respective owners and/or operators to acquire, store, and sell gasoline containing MTBE and/or TBA, and training. Therefore, Defendants had actual control over the Merced gasoline stations with leaking gasoline delivery systems and/or were vicariously liable for the acts and conduct of the

owners and operators of those stations.

57. The MTBE and TBA contamination of Plaintiffs' project area has varied and will vary over time and requires investigation, remediation, abatement, and/or treatment. The Plaintiffs have engaged, or will engage, in remediation, abatement, investigation, and/or treatment programs, and thereby have sustained, are sustaining, and will sustain, the damages alleged herein.

58. For the reasons alleged herein, Plaintiffs are entitled to an award of exemplary damages against defendants Chevron, Shell, Exxon Mobil, Exxon, Equilon, and DOES 1 through 50. After the completion of additional investigation and discovery, Plaintiffs may seek leave of court to amend this complaint to allege a claim for exemplary damages against additional defendants if warranted by the facts.

FIFTH CAUSE OF ACTION

(Nuisance Against All Defendants)

59. Plaintiffs refer to paragraphs 1 through 58 above, and by this reference incorporate them into this cause of action as though fully set forth herein.

60. The negligent, reckless, intentional, and ultrahazardous activity of Defendants, and each of them, as alleged herein, has resulted in the contamination and pollution of and threats to Plaintiffs' project area and thereby constitutes a nuisance. The contamination, pollution, and threats to Plaintiffs' project area from gasoline containing MTBE and/or TBA is a public nuisance as defined in Civil Code section 3479, Civil Code section 3480, Health and Safety Code section 5410, and Water Code section 13050, as it is injurious to health, indecent, and offensive

to the senses and has substantially interfered with and obstructed Plaintiffs' project area and property rights.

61. The Defendants' negligent failure to warn that:

- (a) MTBE and TBA are more soluble, mobile, and persistent than other components of conventional gasoline and, therefore, have a unique and greater potential to contaminate groundwater and drinking water supplies;
- (b) special precautions should be taken to prevent, contain, limit, detect, and cleanup releases of gasoline containing MTBE and TBA;
- (c) gasoline delivery systems should be upgraded and improved to prevent releases of gasoline containing MTBE;
- (d) any release of MTBE and TBA must be detected and remediated as soon as possible to avoid contamination of wells and drinking water;
- (e) handling gasoline containing MTBE and TBA in the same manner as conventional gasoline can cause environmental contamination which is difficult and expensive to cleanup; and
- (f) even small spills of gasoline containing MTBE (including a cup spilled on the pavement by the customer) can cause environmental contamination if it is not promptly cleaned up;

was a substantial factor in the creation of the nuisance.

62. Plaintiffs own and hold property rights and interests damaged by the nuisance.

Plaintiffs' injury is separate and distinct from that of the public.

63. Plaintiffs have not consented to and do not consent to this nuisance. Defendants, and each of them, knew, or should have known, that Plaintiffs would not consent to this nuisance.

64. As a direct and proximate result of the nuisance, Plaintiffs have been damaged and are entitled to the compensatory and exemplary damages alleged herein, or to such other appropriate relief as Plaintiffs may elect at trial, including, but not limited to, equitable relief in the form of an order requiring the Defendants to abate the nuisance injuring Plaintiffs and the project area.

PRAYER

WHEREFORE, Plaintiffs request judgment against Defendants, and each of them, for:

1. Compensatory damages according to proof;
2. Exemplary damages in an amount sufficient to punish defendants Chevron, Shell, Exxon Mobil, Exxon, Equilon, and DOES 1 through 50, inclusive, and to deter those defendants from ever committing the same or similar acts;
3. An Order declaring that the Defendants have created a nuisance, and compelling Defendants to abate that nuisance;
4. Pursuant to Civil Code section 1882.2, three times the amount of actual damages, plus the cost of the suit and reasonable attorneys' fees;
5. Reasonable attorneys' fees, pursuant to Code of Civil Procedure section 1021.5 or otherwise, and costs incurred in prosecuting this action, and prejudgment interest to the full extent permitted by law; and
6. Such and other further relief as the court may deem just and proper.

EXHIBIT 39

40-86130-23

Dya(11)

Minutes for the Public Focus Meeting

For Methyl tert-Butyl Ether (MTBE)

December 17, 1986

The meeting opened with comments from Rich Troast, Section Chief in the Test Rules Development Branch. Beth Anderson, project manager for MTBE, presented the handout information (attached) which outlined the concerns and testing recommended by the Interagency Testing Committee (ITC) Report 51 FR 41417 (November 14, 1986). She indicated the data gaps in: health effects, exposure, and production data and requested industry submission of this information. An additional concern brought out by TRDB research was the contamination of ground water supplies by MTBE. There are over 700,000 underground storage tanks for petroleum products in the US and about 30% of these tanks leak.

Vinay Kumar, Chemical Engineering Branch, submitted a list of questions and requested industry response. Ed Coe, Economics Branch, presented a list of questions for industry response. He estimated the ITC testing costs (\$500,000 to \$800,000) and the annualized test cost per pound as a percentage of product price per pound: 0.009% to 0.018%.

William Kilmartin, from ARCO Chemical Company, presented data to answer the ITC's concerns with two major points: 1) Monitoring of exposure to MTBE from gasoline vapors is needed. The worse case exposures can be calculated from existing data. 2) Testing for chronic inhalation health effects is not necessary because worse case exposures to MTBE are well below the no observable adverse effect level.

Arthur Lington, EXXON Corporation, presented a summary of health effects testing of MTBE already conducted. His review of MTBE data concluded that there was no need to conduct a chronic study to assess oncogenic, hematologic or neurotoxic effects based on data from experiments with MTBE, other aliphatic ethers and tert-butyl alcohol. The presentation concluded by suggesting that TLV of 100 ppm MTBE would allow a margin of safety of 100 or greater because exposure to MTBE vapor is generally <1 ppm.

The industry representatives were encouraged to submit supplemental information and the mandatory 8(a) and 8(d) information for the Agency's course setting process. Rich Troast indicated that a public course setting meeting would be held in April. Then the meeting was adjourned.

Attachments

EXHIBIT 28

*Schedule*Week 1/Event- 0
2

Receive ITC report recommendation
 Publish ITC report, 3(a) & 3(d) notices,
 and invitation for public
 participation in negotiations

1-6

6

Comment period on ITC report
 Public focus meeting

7-14

18-20

22

3(a) and 3(d) reporting period
 Course-setting

Public meeting on course-setting
 decision and deadline for requests to
 participate in negotiations

22-30

32

Negotiations
 EPA decision point: consent agreement
 or test rule

kConsent AgreementWeekTest Rule

34-36

Prepare consent agree-
 ment; circulate to parties
 Comments due on consent
 agreement

32-40

Rule preparation,
 agency review and
 sign-off

36-40

42

Comment resolution
 Meeting if necessary

62

Publish proposed rule
 in FEDERAL REGISTER

42-44

Prepare final consent
 agreement and FEDERAL
REGISTER notice

70-106

Agency reviews com-
 ments; preparation of
 final rule or no-test
 decision, agency

44-48

Sign-off consent agreement
 and FEDERAL REGISTER notice

108

review and sign-off^{2/}
 Publish final rule or
 no-test decision^{1/} in
FEDERAL REGISTER^{2/}

50

Publish FEDERAL REGISTER
 notice

MEETINGS - BUTT
 DECEMBER 17, 1986
 10 A.M.

THEIR FOCUS MEETING

Name ART LINDEN
 Company Affiliation EXXON CORPORATION
 Address PO BOX 285 E. HILLSTONE NJ 08977
 Phone Number 201-993-1898

Name JAMES DEJONING
 Company Affiliation ARCO (Chevron)
 Address 1500 AMPHET ST Philadelphia Pa 19102
 Phone Number 215-557-7204

Name P. J. Ramirez
 Company Affiliation EPA
 Address 1330 G. AVE WASH DC 20002
 Phone Number 202-675-0060

Name Ken Sternberg / Lori Wainright
 Company Affiliation Alcohol Week
 Address 1234 E. Davis Highway Arlington, VA 22203
 Phone Number 702-35116

Name George Vercis
 Company Affiliation Varco Chemical
 Address 1500 Market St. Phila Pa 19101
 Phone Number (215) 557-2255

Name Vinay Kumar
 Company Affiliation EPA
 Address WASH DC 20460
 Phone Number 202-382-3241

Name John DeLong
 Company Affiliation Texaco Inc
 Address PO Box 5888 Beaumont TX 77705
 Phone Number 409-831-3400 X6311

Name WILLIAM T. KILMARTIN
 Company Affiliation ARCO CHEMICAL CO.
 Address 1500 MARKET ST PHILA PA 19102
 Phone Number 215-557-3560

Name S.A. RIDGON
 Company Affiliation ARCO Chem. Co.
 Address 3501 Liner Charon Dr. Harrison Tn 38073
 Phone Number (615) 354-2010

Name Touma Kila
 Company Affiliation TRAB
 Address 441 M CHOW
 Phone Number 475-8120

Name Ed Cox
 Company Affiliation EPA OTS/ETD/PIR
 Address TS-227
 Phone Number 382-3214

Name Michael S. ...
 Company Affiliation EPA OTS/HERD/TER
 Address TS-706
 Phone Number 387-3451

Name DANIEL TALMA
 Company Affiliation AROLD CORP
 Address 200 E. RANDOLPH CHICAGO IL 60601
 Phone Number 312-856-5772

Name D. A. GRAY
 Company Affiliation SYRACUSE RESEARCH CORP
 Address SYRACUSE NY 13210
 Phone Number 315-477-7017

Name Ra Gordon
 Company Affiliation PTC N
 Address _____
 Phone Number 544-1940

Name LYNNE AKERSON
 Company Affiliation APT
 Address 1220 L ST NW
 Phone Number 682-2479

Name Phil M. H. Howard
 Company Affiliation Shoreline Res. Corp.
 Address Morrill Lane Pyramus NW 13219
 Phone Number 315-4355100

Name Michael Neal
 Company Affiliation Shoreline Research Corp
 Address Morrill Lane SW
 Phone Number 315-425-5100

Name JACK MCCARTHY
 Company Affiliation EPA/ITC
 Address 401 Main
 Phone Number 381-2773

Name Bob Drake
 Company Affiliation EPA/ITC
 Address 401 TS 792
 Phone Number 382-3820

Name H.J. Sam
 Company Affiliation Chen Hwa Pacc
 Address 2501 M ST NW Wash DC 20037
 Phone Number 702 EBT-1169

Name L.L. Spurluck
 Company Affiliation CMA
 Address 2501 M St NW WDC 20073
 Phone Number 202-282-1182

Name Alano Kortum
 Company Affiliation 1 EPA - OAR - OMS - FOSI - Full
 Address FAIRCHILD EN-397E
 Phone Number 475-9841

Name Robert Fensterman
 Company Affiliation API
 Address 1201 L St NW WASH DC 20005
 Phone Number 682-8478

Name Beth Anderson
 Company Affiliation EPA - OTS - ECAD - TRDA
 Address 401 M Street SW
 Phone Number 475-8158

Name Rick Tronst
 Company Affiliation EPA
 Address 401 M Street SW
 Phone Number

Name
 Company Affiliation
 Address
 Phone Number

Name
 Company Affiliation
 Address
 Phone Number

EXHIBIT 40

Memorandum

San Francisco
February 13, 1987

JOB FILE 37001

MTBE

OPERATIONS & BUSINESS PLANNING	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
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Mr. C. B. Smith

- 2 -

February 12, 1987

Environmental

Because of the perceived health effects, local and state regulatory agencies are concerned with the clean-up of ground water containing MTBE. Clean-up levels vary from state to state, and in some cases, between localities within a state.

Two considerations impact MTBE. One is the potential health risk, and the second is the increased solubility over normally regulated constituents of interest, i.e., benzene, toluene and xylene (BTX). *any more?*

MTBE is significantly more soluble in water than BTX. Consequently, the dissolved "halo" from a leak containing MTBE can be expected to extend farther and spread faster than a gasoline leak that does not include MTBE as one of the constituents.

Further compounding the problem of increased solubility, MTBE is more difficult to remove from ground water using current technology (air stripping or carbon adsorption). Because of its lower volatility, MTBE requires more than double the air stripping capacity to reach a 95 percent reduction. Removal using carbon adsorption is even worse. MTBE breaks through activated carbon four times faster than BTX.

Clean-up of a gasoline leak/spill containing MTBE can be expected to initially cost more in capital and O&M than a conventional gasoline leak/spill. There are insufficient data available to determine the time required to clean up dissolved MTBE from ground water. Logically one could conclude the MTBE would not be as tightly bound to soil particles, thus could be more easily leached from the subsurface soil particles. However, due to the increased solubility, the MTBE will be dissolved into a much larger portion of the aquifer, thus offsetting a possible reduced vadose zone contamination.

unsaturated portion of subsurface above water table

Regulatory

The Environmental Protection Agency (EPA) has until April, 1987, to propose a test rule for MTBE under Section 4 of TSCA. While EPA does not have to issue a test rule if they determine that current information is sufficient, this is not expected to happen. In April, the EPA is expected to outline their major concerns about MTBE and issue the required testing and monitoring needed to address those concerns.

Industry representatives from Arco, Exxon, Sun Oil and Texaco met with EPA in December, 1986 at a "focus meeting" to discuss MTBE. Arco's representative felt the EPA's major concern was the potential for ground water contamination. Their secondary concerns were the lack of animal lifetime bioassay data and consumer exposure data. Manufacturers of MTBE are attempting to establish an industry group to "negotiate" the test rule with EPA. This will probably be done through the Specialty Organic Chemicals Manufacturers Association (SOCMA).

Chevron has experience in three states involving clean-up of ground water containing MTBE (Florida, Maryland and Texas). While all states were concerned about the MTBE, none showed any increased concern due to mobility, solubility, toxicity, or difficulty of clean-up. The possible move to restrict the use of MTBE

Mr. D. S. Smith

- 3 -

February 13, 1997

In Maine appears to be an isolated action and not a trend. However, this could change if other states perceive the threat to ground water to be great or if Maine becomes exceptionally vocal (see Enclosure 2). Considering solubility, toxicity, difficulty of detection (taste) and degree of treatment, methanol as an additive should be of greater concern than MTBE. However, several states apparently do not share those concerns about methanol.

Overseas, the European Economic Community (EEC) is concerned about all oxygenated fuel additives (i.e., methanol, ethanol, MTBE) and is considering a data call-in on these materials. Manufacturers and users would have to develop and submit the required data. We have asked Chevron Central Laboratories to monitor their actions and inform us of new developments.

If you have any additional questions please contact either Mr. Russ White (CTN 666-6027) or Mr. Jack Fraim (CTN 894-6735).


R. L. ARSCOTT

JWF:jdr
Enclosures

cc w/o encl: Mr. C. L. Blackwell
Mr. O. T. Buffalaw
Mr. O. W. Callahan
Mr. R. D. Cavalli
Mr. W. J. Mulligan

Mr. H. S. Quillicy
Mr. E. E. Spittler
Mr. R. W. Vase
Mr. S. L. Dryden

EXHIBIT 41

TO: Bob Drew

FROM: Judy Shaw

DATE: Jan. 8, 1987

RE: Potential Issue for API--Methyl Tertiary Butyl Ether in Gasoline

During the API/NWWA groundwater Conference held Nov. 12-14 in Houston, a paper was presented by personnel from the Maine Dept. of Environmental Protection discussing groundwater contamination problems resulting from MTBE in gasoline leaks and spills. Of most concern is the paper's conclusion that 1) MTBE be banned from gasoline stored underground or 2) gasoline containing MTBE be stored in double contained facilities. This paper received considerable publicity at the conference and was picked up and reported in the Dec. 8 issue of Alcohol Week. In addition, it was sent out to the UST Work Group of the New England Interstate Water Pollution Control Commission which also includes EPA personnel.

Recently, representatives of ARCO Chemical (Bill Kilmartin, George Yogis) contacted Dave Ruhala and Joe Pattok of API expressing their concern and requesting API rebuttal. As a result Dave R. Joe and Rudy White met with Dave Chen to discuss the issue. Subsequently, Dave sent a copy of the paper to selected members of the Groundwater task force for review. (NWWA will publish the proceedings of the conference and we have an opportunity to comment and request changes in the paper.) A draft of the API comment on the paper is attached along with the original paper and the Alcohol Week review. The API comments were prepared by Gene Mancini of ARCO, subsequent to a conference call with task force members. (Gene is a member of the task force but not involved with ARCO Chemical.) The draft is now being circulated to the task force members for comment. When final, it will be sent to Jay Lahr, the president of NWWA and the person responsible for preparing the proceedings.

In addition, Dave Chen tells me that Walter Retzsch has been asked by Ron Jones to develop information on the current production of MTBE and its extent of use in gasoline. Lastly, Bob Fensterheim states in his Dec. 30 memo that EPA is considering TSCA reporting requirements for MTBE.

Since a number of API folks seem to now be involved in the issue, I suggest you bring it to Bill's attention. Perhaps a meeting should be scheduled to decide what should be API's role (if any) on this issue and who should be the players. Our only other involvement with MTBE here in HESD at the moment is a research project which has just got underway to look at treatment technology efficiency and optimization for removing MTBE from contaminated groundwater.

EXHIBIT

29

EQ 038173

American Petroleum Institute
1220 L Street, Northwest
Washington, D.C. 20005
202-682-8000



David H. Chen, Ph.D.
Sr. Environmental Scientist
(202) 682-8343

January 23, 1987

Dr. Jay Lehr
National Water Well Association
6375 Riverside Drive
Dublin, OH 43017

Dear Dr. Lehr:

This letter has been written in order to provide comments to the National Water Well Association regarding a manuscript submitted for proceedings publication entitled "Methyl tertiary Butyl Ether as a Ground Water Contaminant" written by Garrett, Moreau and Lowry. The comments presented here represent the consensus opinions of members of the Groundwater Technical Task Force of the American Petroleum Institute.

While specific and individual comments are indicated on a copy of the manuscript enclosed with this letter, several generalized but major comments and concerns are provided below for your consideration in reviewing the paper:

*The tone and presentation of the paper detracts from what should be an objective and dispassionate discussion of the technical data provided by the authors. Phraseology such as "name of the game" and "chalk it up as" is unusual, and other familiar, almost conversational sentence structure, confers an informality which is unwarranted in a technical publication.

*The authors have reviewed publicly available toxicological data as well as industry monitoring data and have concluded that MTBE is "not very toxic" but seems to be an irritant at high doses. Nevertheless, they imply in other sections of the paper that MTBE is highly toxic in contradiction to their own cursory analysis of the available data.

*Both in the Abstract and in the body of the text the authors introduce and promote the hypothesis that MTBE acts as a cosolvent. The somewhat confusing discussions imply that increased concentrations of BTX compounds will be found in both MTBE plumes and contaminated groundwater. Such cosolubility theories were once proposed for benzene as a plume cosolvent for ethylbenzene, toluene and other aromatics, but were subsequently demonstrated to be incorrect. The authors provide no substantive data to support such a cosolubility theory.

An equal opportunity employer

EXHIBIT

EQ 038177

56-9901

NJDEP-MTBE-CONTENTION-000050

*The authors conclude the MTBE-contaminated groundwater is difficult to treat yet, in an unnecessarily commercial reference to Lowry Engineering, they conclude that this point-of-use technology is cost-effective. While reference to the technology may be appropriate, the rather strong commercial message is not.

*The authors' "recommendations" that MTBE, and several other octane enhancers developed to replace lead, be either banned as gasoline additives or required double-lined storage tanks is clearly a policy statement and not an objective, credible scientific conclusion. Furthermore, data presented in this paper as well as those generated by ongoing API research indicate that such a policy is reactionary, unwarranted and counterproductive.

Please do not hesitate to contact me if you have any questions regarding these comments.

Sincerely,



D. H. Chen

Enclosure

cc: J. Shaw
B. Graves

EQ 038178

NJDEP-MTBE-CONTENTION-000051

EXHIBIT 42

ARCO Chemical Company

110-5713008



February 12, 1987

Ms. Beth Anderson
TS-7718, Room 100, NE Hall
Test Rules Development Branch
Environmental Protection Agency
401 M Street, S.W.
Washington, DC 20460

VIA FEDERAL EXPRESS

Dear Ms. Anderson:

In response to your questions on "Data Gaps" (Attachment 1) that were presented at the December 17, 1986 Focus Meeting on Methyl-Tertiary Butyl Ether (MTBE), ARCO Chemical Company submits the following comments:

Item A - Additional studies relevant to health effects of MTBE will be addressed in our Section 8(a), 9(d) submittal.

Item B - The number of workers exposed to MTBE will be included in our Section 8(a) submittal. We have no information on number of consumers exposed. However, as we have indicated in our submittal to the ITC, MTBE is estimated to be in about 10% of the overall gasoline production. The number of consumers would then be apportioned to approximately 10% of the gasoline distributed at self service stations.

Item C was addressed in our formal comments to the Environmental Protection Agency (EPA) on the 19th ITC Report on MTBE. A copy of those comments is included (Attachment 2). The conclusions are summarized here:

- o Gasoline vapor and subsequent MTBE in gasoline vapor exposures have been documented and studied. For the case with gasoline containing 10 Volume % MTBE, worker and consumer exposures would be approximately .06 ppm MTBE on an 8-hour TWA. Considering that fuels containing MTBE are typically blended at 2-8 Volume %, worker exposures would be even less than the .06 ppm value.

04/21/1999

TSCA Docket/EPA

EXHIBIT 12

NJDEP-MTBE-CONTENTION-000052

Ms. Beth Anderson

- 2 -

February 10, 1987

Item D requests more information on the presence and persistence of MTBE in groundwater. We are not aware of any incidents where MTBE contaminated groundwater at manufacturing facilities. Where gasoline containing MTBE is stored at refineries, terminals, or service stations, there is little information on MTBE in groundwater. We feel that there are no unique handling problems when gasoline containing MTBE is compared to hydrocarbon-only gasoline. We are aware of problems reported in the State of Maine with groundwater containing MTBE. Attachment 3 is a paper titled "MTBE as a Groundwater Contaminant". We disagree with the conclusion in the paper's abstract that "...the BTX compounds are more soluble in ether than they are in water. Thus, when gasoline plus MTBE leaks to groundwater, the MTBE spreads both further and faster than the gasoline, and the concentration of gasoline dissolved in groundwater increases." ARCO Chemical has conducted additional testing which supports our position that MTBE will NOT act as a cosolvent and increase the BTX or other gasoline components in the groundwater. Attachment 4 summarizes this report.

Item E - Attachment 5 is an updated list of MTBE manufacturers and the the plant locations.

If you have additional questions or require other supplemental information, please contact me at 215-537-3560.

Very truly yours,

William J. Kilmartin

W. J. Kilmartin
Manager, Technical Service

WJK/hlp

ATTACHMENT

04/21/1994

TSCA Docket/EPA

NJDEP-MTBE-CONTENTION-000053

III. Data gaps

A. EPA is unaware of any additional studies relevant to the health effects of MTBE inhalation and ingestion.

1) We have received copies of Bio/dynamics Inc. report to API of the following studies: 9-day inhalation toxicity study of MTBE in rats; an inhalation teratology study in rats with MTBE; an inhalation teratology study in mice with MTBE; a single generation inhalation reproduction/fertility study in rats with MTBE; and the metabolic fate of MTBE following acute intraperitoneal injection.

B. TRDB needs more current information on the number of workers and consumers exposed to MTBE.

C. TRDB needs more information on the concentration of MTBE in the "breathing zone" of workers and consumers transferring MTBE-containing gasoline.

D. TRDB needs more information on the presence and persistence of MTBE in ground water.

E. Is this list of manufacturers/distributors complete?

American Petrofina Inc., Big Spring, TX
Amoco Oil Co., Whiting, IN
ARCO Chemical Co., Newton Square, PA
Champion Petroleum Co., Humbolt, TX
Diamond Shamrock, Sunray, TX
Exxon, Houston, TX
Hill Petroleum Co., Houston, TX
Phillips Petroleum, Bartlesville, OK
Texaco Inc., Beacon, NY
Texas Petroleum Corp., Houston, TX
Valero Refining Co., Corpus Christi, TX

04/21/1999

TSCA Docket/EPA

NJDEP-MTBE-CONTENTION-000054

EXHIBIT 43

40-8713012

MTBE COMMITTEE

1330 Connecticut Avenue, N.W., Suite 300
Washington, DC 20036, Ph. 202-659-0000
Executive Director: George S. Dominguez

(02)

February 27, 1987

Dr. Beth Anderson
TS-778 Room 100 RE Hall
Test Rules Development Branch
Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

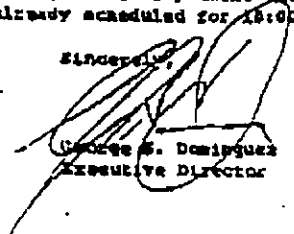
Re: MTBE Committee Statement on MTBE (QFIS - 41023)

Dear Dr. Anderson:

As you know from our earlier conversations, the MTBE Committee has recently been formed and I am pleased to submit the attached statement on behalf of the Committee relative to the Federal Register announcement of the ITC's intention to designate MTBE for priority testing consideration under the Toxic Substances Control Act (51 Federal Register 41417, Nov. 14, 1986). The submission is also intended to be responsive to discussions held at the December 15th Focus Meeting.

In addition to providing you with this written statement, we would also like to confirm that we will be making a verbal presentation to you and your staff on March 3rd at a meeting already scheduled for 10:00 a.m. on that day.

Sincerely,


George S. Dominguez
Executive Director

GSD/vls

attachments

Affiliated with the Oxygenated Fuels Association

EXHIBIT 14

COMMENTS OF THE NREX COMMITTEE
ON THE INTERAGENCY TESTING COMMITTEE'S
RECOMMENDATIONS CONCERNING
METAL TERTIARY BUTYL ETHER

FEBRUARY 27TH, 1967

INTRODUCTION

The MTBE Committee was recently organized to provide a forum in which to address the environmental, health, safety, legislative and regulatory issues concerning methyl tertiary butyl ether (MTBE) of importance to the public and the producers and users of MTBE. The Committee is dedicated to working cooperatively with the government and the public and to be a source of information to MTBE producers, users, the government and the public. In specific the Committee will:

- Address environmental issues relating to MTBE by (i) collecting data from member companies and other sources and (ii) sponsoring programs to develop data unavailable from other sources.
- Address federal and state regulatory issues relating to MTBE by (i) providing technical data to appropriate regulatory agencies and legislative bodies (ii) meeting with appropriate governmental officials to develop acceptable solutions.
- Make available to interested parties and the general public technical and scientific information relating to the use of MTBE in fuel.
- Provide a forum for the exchange of appropriate information between producers and users of MTBE.

Organization of The Statement

This statement consists of three sections:

- Section I - Health Effects Review Summary
- Section II - Occupational and Environmental Exposure
- Section III - Societal Impact of MTBE Utilization

In preparing this statement, extensive efforts were undertaken by the MTBE Committee and its members to obtain all available published and unpublished health effects studies. In this regard, we would specifically like to call the Agency's attention to the fact that we have been able to locate several unpublished toxicology studies that were apparently unavailable to the ITC in its review of MTBE toxicology data. A summary of these studies is provided in Section I. The full text of the studies is provided as an Appendix to this section. It is important to note that these studies did not indicate any evidence that MTBE poses an unreasonable risk to human health. These studies as well as those which were reviewed by the ITC are in our opinion, sufficient to demonstrate or permit EPA to predict that MTBE does not represent such a risk. Even repeated exposures of rodents or monkeys to levels of 2,000 ppm or greater did not induce any morphological, neural tissue, or other organ effects which indicated a chemical induced toxicity. These conclusions are fully supported in the health effects review section of this paper.

The information contained in Section II on Occupational and Environmental Exposure supports the conclusion that gasoline vapor emissions at service stations and terminals have been measured and the MTBE concentration in these vapors is well below levels which would produce any adverse health effects.

In addition, Section II provides information on the positive effects on air quality of using MTBE as a fuel component, as well as an analysis of the level at which MTBE would be detected as a ground water contaminant in the event of an accidental spill or leakage. We believe that the information provided supports the conclusion that MTBE does not represent a drinking water hazard.

Section III provides information on the societal impact of the use of MTBE as a high octane component for gasoline. The use of MTBE in motor fuels has a number of advantages relative to air quality improvement, all of which are summarized in Section III. If a test rule is issued requiring chronic testing that will take 3 - 4 years to complete, great uncertainty will be created as to whether MTBE is a safe fuel additive. As a result demand for MTBE and expansion of productive capacity is not likely to grow significantly. Refiners will be likely to commit capital to more costly alternative methods of octane enhancement such as isomerization and reformate plants that do not have the environmental benefits of MTBE. Thus, requiring long term testing of MTBE will have a significant adverse environmental and economic impact.

Statutory Criteria

To issue a Section 4 test rule for MTBE EPA must make all of the following findings:

- (1)(A) MTBE may pose an "unreasonable risk" of harm to health or the environment; or
- (B) MTBE is produced in "substantial quantity" and may reasonably be anticipated to result in "substantial environmental release" or "significant or substantial human exposure"; and
- (2) insufficient data exists about the health or environmental effects of MTBE to reasonably determine or predict the impact on health or the environment of manufacturing, processing, distribution, use and disposal; and
- (3) testing is needed to develop such data.

In addition, to making the above findings, EPA must consider the economic impact of the tests required under the rule.

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in substance, the following alternatives to the MTBE source control alternatives proposed by the EPA are:

II. MTBE Source Control Alternatives

I. Concentration Levels

a. Noticable levels:

Data presented in the MTBE Focus Meeting held by EPA on December 17, 1994, referenced a paper by P. Garrett et al (Exhibit I-7) which mentioned that "...People can detect the odor of MTBE in their water at concentrations as low as 20-50 parts per billion...."

As a result of this surprisingly low detectable level mentioned, a data search was conducted for data which would corroborate or question the same detectability levels. Data from Shell Oil Co. was obtained (Attachment I-11). The Shell data show significantly higher levels for the threshold of detectability of MTBE in water i.e. about 700 ppb.

The Shell data was based on studies employing a panel of people. The use of a panel is a widely accepted industry technique. This does not preclude the possibility that certain individuals may have much lower thresholds of noticability for certain odors or tastes.

The question of detectability levels in water is significant. The lower the detectability level of MTBE in water,

and that the odor detection level for MTBE in groundwater is 700 ppb. This level is much lower than the 700 ppb level as determined by Shell or the much lower 20-50 ppb level as presented in reference 1-7. It does not appear that harmful levels of MTBE from ground water containing MTBE will be ingested before people are aware by taste and smell that MTBE is present in the water.

b. MTBE in Groundwater

The results of a number of acute and subchronic health effect studies are presented in the Health Effects Review Summary section of this report. These data suggest that the odor detection level of 700 ppb (approximately 0.7mg/l) is such that the organoleptic properties of MTBE are sufficient to protect against human ingestion of toxic quantities of MTBE.

2. Co-solvent Effects

Claims have been made by Garrett, et al (Exhibit 1-7) that MTBE in groundwater will increase the concentration of other less soluble gasoline components, particularly aromatics, dispersed from the leak to the ground water.

12.

...demonstrate that there is no evidence by
 it of the extraction of aromatic hydrocarbons by
 at the concentration levels anticipated for MTBE
 in gasoline i.e. the tests were run at 10 volume
 concentration MTBE.

of Exhibit I-7 by Prof. Paul Roberts at Stanford
 y (Exhibit I-9) indicates that the situation was
 ive based on what he had seen from Exhibit I-7.
 1996 sent Dr. Robert Arco's own data and asked
 action and review. This evaluation and review
 occurring within the next few weeks. This
 will be transmitted to EPA for consideration
 lon of MTBE solubility effect on aromatics.

Resistance

ty of MTBE is an important consideration:

solubility is a well known phenomenon
 enced both in the air and in opera-

solubility is a less well known



EXHIBIT 44

1988 HEALTH AND ENVIRONMENTAL PROJECT PROPOSALS

ISSUE/TITLE: Motor Gasoline and Water Management
(Groundwater) Chemical Fate of Octane Enhancers in
Groundwater

OBJECTIVE: To determine the chemical characteristics and fate of
BTX and ether/Alcohol solutions under in-situ experimental
groundwater spill conditions. Specifically, plume delineation,
octane enhancer "cosolubility" characteristics, and
biodegradation will be investigated.

DRIVING FORCES/IMPACT: As a result of lead phase-down, octane
enhancers such as MTBE and various alcohols are increasingly being
used as substitutes for lead. There has recently been a dramatic
increase in regulatory interest/concern over these
alcohols/ethers in groundwater. Maine is considering banning the
use of MTBE. Without field data to address the concerns of the
regulatory community, regulatory action can be expected (probably
within a 1-3 year time frame.)

DESCRIPTION: This project would consist of groundwater field
studies, laboratory water quality analysis, a modest literature
review and report preparation. Data generated would include
characterization of plumes under water table conditions, the
degree to which selected alcohols/ethers act as cosolvents for
BTX compounds, and the nature of in-situ biodegradation of these
solutions.

POSSIBLE OUTCOMES AND CONSEQUENCES: The objectives of the
research can be accomplished, as has been well-demonstrated with
recent Task Force research on in-situ BTX plumes. The industry
segments most likely to benefit from the research are
refining/marketing. If the research is not conducted, there will
be few credible data to support industry's contention that such
octane enhancers do not constitute a significant new groundwater
contamination threat as constituents of gasoline.

ESTIMATED DURATION: 1-2 years

ESTIMATED BUDGET: \$125K

PRIOR COSTS: None

FUTURE COSTS: \$80K

SUBMITTED BY: Gene Mancini (ARCO)

#9:catchI

Ranked 1st

EQ-SH156 0034

EXHIBIT 30

NJDEP-MTBE-CONTENTION-000107

EXHIBIT 45

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

In re: Methyl Tertiary Butyl Ether ("MTBE")
Products Liability Litigation

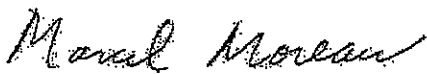
Master File No. 1:00-1898
MDL 1358 (SAS)
M21-88

This Document Relates To:

*City of Merced Redevelopment Agency v. Exxon
Mobil Corp., et al.*, 08 Civ. 06306 (SAS)

EXPERT REPORT OF MARCEL MOREAU

Marcel Moreau Associates
73 Bell Street
Portland, ME 04103



Signature

April 11, 2011

Date

SECTION III

UST systems met the corrosion protection, spill containment, and overfill prevention requirements of the federal regulations that were required to be in place by December 1998.¹³⁰ He estimated that the rate of upgrading would continue at about 100,000 tanks per year until 1998. This meant that "...we will enter 1998 with 600,000 USTs not yet in compliance with the federal tank upgrade requirements."¹³¹

In November 1996, the API cited an EPA estimate that only 40 percent of active tanks met the 1998 requirements at that time. The API briefing paper also indicated that 80 percent of API member UST systems met the 1998 upgrade requirements.¹³²

API member companies were well ahead of smaller tank owners in upgrading the tanks they owned, but API member companies also knew that bare steel tanks still represented a very large portion of the UST systems receiving gasoline with MtBE. The petroleum marketing industry was well aware that many tank owners would be waiting until the last minute to upgrade their storage systems, and that many old and substandard bare steel UST systems would be storing gasoline containing MtBE for many years before they were upgraded.

December 22, 1998 – The Federal Tank-Upgrading Deadline

EPA regulations that went into effect on December 22, 1988, established a ten-year timeline for upgrading the nation's UST systems with corrosion protection, spill containment, and overfill prevention. The deadline for adding these three components to UST systems already in service in 1988 was December 22, 1998.¹³³

As predicted in the *TulsaLetter* in 1994,¹³⁴ a great many tank owners opted to wait until the last minute to upgrade their storage systems. California authorities estimated

¹³⁰ "Let's take a brief look at the prospects..." *TulsaLetter*, August 31, 1994, p. 1.

¹³¹ *Ibid.*

¹³² "Attachment B, MtBE Status/Strategy," API briefing paper, November 27, 1996.

¹³³ 40 CFR 280.21

¹³⁴ "Let's take a brief look at the prospects..." *TulsaLetter*, August 31, 1994, p. 1.

EXHIBIT 46

AN. 1995

CLEANER-BURNING FORMULASHELL GASOLINES

CRACKER-BARREL MEETING REMARKS

GASOLINE INTRODUCTION

- I'D LIKE TO TELL YOU ABOUT A MAJOR NEW PRODUCT THAT SHELL WILL INTRODUCE THIS SPRING.
- SHELL HAS DEVELOPED A NEW GASOLINE CALLED CLEANER-BURNING FORMULASHELL THAT'S DESIGNED TO FIGHT AIR POLLUTION.
- WE'RE MAKING THIS GASOLINE EXCLUSIVELY FOR CALIFORNIA -- IT WILL REPLACE ALL THE GASOLINE WE CURRENTLY SELL THROUGHOUT THE STATE.
- TO COMPLY WITH THE FEDERAL CLEAN AIR ACT, THE CALIFORNIA AIR RESOURCES BOARD IS REQUIRING ALL GASOLINE MANUFACTURERS TO PRODUCE CLEANER-BURNING FUELS.
- THE NEW GASOLINE IS REQUIRED AT THE PUMP ON JUNE FIRST. HOWEVER, DELIVERIES OF CLEANER-BURNING FORMULASHELL TO SOME STATIONS WILL BEGIN IN EARLY MARCH.

ENVIRONMENTAL BENEFITS

- THE NEW GASOLINE WILL HAVE SIGNIFICANT ENVIRONMENTAL BENEFITS.
- BEGINNING THE FIRST DAY THEY'RE REQUIRED AT THE PUMP, CLEANER-BURNING GASOLINES LIKE FORMULASHELL WILL REDUCE VEHICLE EMISSIONS BY THREE MILLION POUNDS PER DAY.

- THAT'S EQUAL TO TAKING THREE AND A HALF MILLION CARS OFF THE ROAD.
- THE NEW GASOLINES WILL HELP ELIMINATE MORE THAN ONE BILLION POUNDS OF POLLUTION BY THE END OF THE FIRST YEAR.
- THAT AMOUNTS TO THE SINGLE LARGEST EMISSIONS REDUCTION OF THE DECADE.

STATE REQUIREMENTS

- AS YOU KNOW, WE CURRENTLY SELL REFORMULATED GASOLINE IN THE CALIFORNIA CITIES WITH THE WORST AIR QUALITY.
- THAT'S HELPED THE POLLUTION PROBLEM, BUT MORE NEEDS TO BE DONE.
- MORE THAN NINETY PERCENT OF THE PEOPLE IN CALIFORNIA STILL LIVE IN AREAS THAT DO NOT MEET FEDERAL CLEAN AIR STANDARDS AT SOME POINT DURING THE YEAR.
- THE STATE IS TAKING STEPS TO REDUCE POLLUTION CAUSED BY CARS AND TRUCKS, ALONG WITH OTHER SOURCES, SUCH AS FACTORIES AND POWER PLANTS.
- SINCE CARS AND TRUCKS ARE RESPONSIBLE FOR ABOUT HALF OF AIR EMISSIONS, THE AIR RESOURCES BOARD HAS DETERMINED THAT CLEANER-BURNING GASOLINE IS ONE OF THE MOST EFFECTIVE WAYS TO REDUCE AIR POLLUTION.

- THE BOARD HAS DEFINED SPECIFICATIONS FOR THE NEW GASOLINE. TO MEET THOSE, WE HAVE TO CHANGE OUR MANUFACTURING PROCESS TO REDUCE THE AMOUNT OF BENZENE, SULFUR AND AROMATIC HYDROCARBONS IN OUR PRODUCT.

FORMULASHELL ADVANTAGES

- EVERYBODY HAS TO MEET THE SAME SPECS. BUT THAT DOESN'T MEAN THAT ALL CLEANER-BURNING GASOLINES WILL BE THE SAME.
- THERE WILL CONTINUE TO BE DIFFERENCES BETWEEN FORMULASHELL AND OTHER BRANDS, JUST AS THERE ARE TODAY.
- CLEANER-BURNING FORMULASHELL WILL BE OUR CLEANEST GASOLINE EVER.
- LIKE TODAY'S FORMULASHELL, IT HAS AN ADDITIVE PACKAGE THAT REDUCES INTAKE SYSTEM DEPOSITS THAT OTHER GASOLINES CAN LEAVE BEHIND.
- THAT MEANS BETTER PERFORMANCE AND BETTER EMISSIONS CONTROL THAN IF DEPOSITS WERE ALLOWED TO BUILD UP.
- CLEANER-BURNING FORMULASHELL WILL COME IN THREE OCTANE GRADES -- REGULAR, PLUS AND PREMIUM. THERE WILL BE NO CHANGE IN ANTI-KNOCK PERFORMANCE.

GASOLINE PERFORMANCE

- THE NEW GASOLINES WILL WORK IN ALL CARS AND TRUCKS, AND SHOULD NOT AFFECT PERFORMANCE.
- AFTER EXTENSIVE TESTING, THE AIR RESOURCES BOARD CONCLUDED THAT, IN GENERAL, CARS PERFORM AS WELL ON CLEANER-BURNING FUEL AS THEY DO ON TODAY'S GASOLINE.
- DRIVERS MAY NOTICE A VERY SLIGHT DECREASE IN FUEL ECONOMY -- USUALLY LESS THAN ONE MILE PER GALLON.
- CLEANER-BURNING FORMULASHELL CAN BE MIXED WITH CONVENTIONAL GASOLINE -- IT WON'T CAUSE ENGINE DAMAGE. SO PEOPLE DRIVING BETWEEN STATES SHOULD NOT HAVE PROBLEMS MIXING THE TWO FUELS.
- THE NEW GASOLINE WILL NOT AFFECT VEHICLE OR EMISSIONS-CONTROL SYSTEM WARRANTIES.
- IT ALSO CAN BE USED IN GASOLINE-POWERED EQUIPMENT, LIKE LAWNMOWERS AND BOAT ENGINES. EXCEPT FOR THE SLIGHT LOSS OF FUEL ECONOMY, THERE SHOULD BE NO CHANGE IN PERFORMANCE.

COST

- THE BIG QUESTION, OF COURSE, IS WHAT WILL CLEANER-BURNING FORMULASHELL COST?
- BECAUSE IT REQUIRES MORE EXPENSIVE PROCESSING TECHNIQUES AND COMPONENTS, CLEANER-BURNING FUEL COSTS MORE TO PRODUCE.

- AT THIS POINT, IT'S IMPOSSIBLE TO ACCURATELY PREDICT HOW THOSE INCREASED PRODUCTION COSTS WILL TRANSLATE INTO PUMP PRICES.
- IT'S SAFE TO SAY THAT PUMP PRICES WILL BE DETERMINED BY SUPPLY AND DEMAND FACTORS IN THE COMPETITIVE MARKETPLACE.

QUESTIONS

- YOU PROBABLY HAVE SOME OTHER QUESTIONS ABOUT THE NEW GASOLINE. AND YOUR CUSTOMERS WILL, TOO.
- TO HELP YOU ANSWER THEIR QUESTIONS, WE'RE PROVIDING YOU WITH BROCHURES PRINTED IN ENGLISH AND SPANISH THAT CONTAIN MOST OF THE INFORMATION I'VE JUST GIVEN YOU. THESE BROCHURES AND RELATED PUMP TOPPERS WILL BE ARRIVING AT YOUR STATIONS AROUND MARCH 1.
- THE BROCHURES ALSO HAVE AN 800 NUMBER THAT CUSTOMERS CAN CALL TO FIND OUT MORE ABOUT CLEANER-BURNING GASOLINE.

FORMULASHELL IN-SCHOOL PROGRAM

- TO ENHANCE OUR COMMUNICATION EFFORTS ABOUT THESE NEW CLEANER-BURNING GASOLINES, SHELL IS SPONSORING AN EDUCATIONAL PROGRAM IN CALIFORNIA TARGETED AT FOURTH AND FIFTH GRADE STUDENTS .

- THROUGH THE USE OF AN INTERACTIVE MULTI-MEDIA TEACHING KIT, WHICH INCLUDES A VIDEO AND POSTER, STUDENTS WILL LEARN ABOUT THE CHEMISTRY OF REFORMULATED GASOLINE AND HOW IT CONTRIBUTES TO A CLEANER ENVIRONMENT FOR ALL OF US.
- COUPONS REDEEMABLE FOR ONE-DOLLAR-OFF GASOLINE PURCHASES AT SHELL SERVICE STATIONS WILL BE PROVIDED TO THE STUDENTS AS PART OF THEIR INVOLVEMENT IN THE PROGRAM.
- THE PROGRAM, WHICH WILL BEGIN ARRIVING AT ABOUT 7,000 SCHOOLS IN EARLY APRIL, WILL REACH APPROXIMATELY 1.89 MILLION STUDENTS IN CALIFORNIA. MORE INFORMATION ABOUT THE PROGRAM WILL BE COMMUNICATED TO YOU.

VIDEO INTRO

- NOW, TO GIVE YOU MORE DETAILS ON THE NEW CLEANER BURNING GASOLINE, I'D LIKE TO SHOW YOU A VIDEO PRODUCED BY THE CALIFORNIA AIR RESOURCES BOARD.
- IF YOU HAVE ADDITIONAL QUESTIONS, I'LL BE HAPPY TO TRY TO ANSWER THEM AFTER THE VIDEO.

EXHIBIT 47

IN THE SUPERIOR COURT FOR THE STATE OF CALIFORNIA
IN AND FOR THE COUNTY OF MERCED

-oOo-

CITY OF MERCED,

Plaintiff,

Vs

CHEVRON U.S.A., INC.; SHELL OIL
COMPANY; EXXONMOBIL CORPORATION;
EXXON CORPORATION; KINDER MORGAN
ENERGY PARTNERS L.P.; EQUILON
ENTERPRISES LLC; SFPP, L.P. and
DOES 1 THROUGH 200, inclusive,
Defendants.

Case No. 148451

COPY

DEPOSITION OF RICHARD PAZIN

August 24, 2009 at 11:00 a.m.

Before: ERIC L. JOHNSON

RPR, CSR #9771

Taken at:

Merced, California

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Deposition of Richard Pazin / August 24, 2009

1 Q. Okay. When Pazin & Myers at their Merced
2 location is picking up gasoline products, what terminals
3 would they have used for that purpose?

4 A. We used ST Services out of Stockton, Banta,
5 California --

6 Q. Help me with that last one.

7 A. Banta, B-a-n-t-a, California, which is the
8 Chevron terminal in Tracy, California. Banta. We call
9 it Banta. It is out of Tracy, California. Kinder
10 Morgan in Fresno, California. Tesoro out of Stockton.
11 New West Petroleum out of Stockton. And that's the best
12 of my recollection, those were the -- where we pick up
13 product.

14 Q. Okay. And in listing the terminals in
15 Stockton, Tracy, and Fresno that you just mentioned,
16 does that cover the time period from 1980 to present?

17 A. Yes.

18 Q. When the firm became Pazin & Myers, Inc. were
19 you still obtaining product from each of those terminals
20 or was it a subset?

21 A. Rephrase that.

22 Q. I am trying to find out, when you started in
23 about 1990 or '91 as Pazin & Myers, Inc., if you were
24 still picking up gasoline products at all of those
25 terminals or only some of them.

Deposition of Richard Pazin / August 24, 2009

1 A. All of them.

2 Q. Were there any terminals you stopped doing
3 business with after the firm of Pazin & Myers, Inc., was
4 formed, out of this list that you have given us?

5 A. No.

6 Q. Given the fact that you were a distributor of
7 Chevron products and you had their sign up on your bulk
8 facility, did you tend to purchase more product from
9 Chevron than any other single supplier?

10 MR. CORRELL: Objection; vague; misstates
11 evidence.

12 THE WITNESS: No, no, I wouldn't say so.

13 MR. MILLER: Q. Was price the factor that
14 determined which terminal you picked the product up at?

15 A. More time -- yes, unless we were going to a
16 branded facility. Which in there we would have to take
17 Chevron product to Chevron sites.

18 Q. And you are familiar with the cardlock station
19 in Merced, at 1455 R Street?

20 A. I am.

21 Q. To your recollection, were they ever selling
22 branded product?

23 A. Yes.

24 Q. What brand of --

25 MR. CORRELL: Object to the form of the

1 A. Yes.

2 Q. What was the general practice during the time
3 that you were distributor of Chevron branded products,
4 in terms of when you supply MSDS's concerning gasoline
5 products to your customers? First of all, were you
6 supposed to supply it at least once a year?

7 A. I don't remember any of -- it was as-needed.
8 There was no set program, I believe.

9 Q. If they had a new MSDS that it was revised and
10 it replaced an earlier one during the time you were
11 selling Chevron branded products, if you got such a
12 document from Chevron, what would you do with it?

13 A. Put it in my file at the plant.

14 Q. Would you send a copy out to all of your
15 customers when you got a revised or new MSDS from
16 Chevron?

17 A. No.

18 Q. Other than customers who were buying Chevron
19 branded products, did you have the same practice and
20 policy in distributing MSDS's that you just described
21 for us throughout the time you were general manager?

22 A. Rephrase that.

23 Q. Yeah. Throughout the time you were general
24 manager and you were receiving material safety data
25 sheets, did you supply them to gasoline stations upon

1 request?

2 A. Yes.

3 Q. If you didn't receive a request, if they didn't
4 ask for it, did you ever supply material safety data
5 sheets for gasoline products that you were selling to
6 gasoline stations?

7 A. No. I don't know. We might have. I can't
8 remember.

9 Q. Who sends paperwork on behalf your business to
10 your customers today? That is, gasoline stations.

11 A. I do. If they ask for something I do.

12 Q. And you are the one who answers the phone?

13 A. The secretary answers the phone.

14 Q. Does she help you do that?

15 A. Yes.

16 Q. Is there anyone else who helps the business
17 send out documents like material safety data sheets,
18 other than yourself or your secretary, during the time
19 you have been with the business?

20 A. No.

21 Q. Are there any other employees of your business,
22 other than yourself or your secretary, over the years we
23 are discussing?

24 A. That would do that?

25 Q. No, at all.

Deposition of Richard Pazin / August 24, 2009

1 would be the shipper of record, to the Cardgas station
2 in Merced. Correct?

3 A. Yes.

4 MS. VANDERLAAN-SMITH: The document is the best
5 evidence.

6 MR. MILLER: Q. If we talk about -- not about
7 your diesel products, but your gas products, were you
8 buying most of your gasoline in the 90's from either
9 Tosco or Chevron?

10 MR. CORRELL: Object to the form; calls for
11 speculation.

12 THE WITNESS: It was either branded or
13 unbranded.

14 MR. MILLER: Okay.

15 THE WITNESS: I can't -- wouldn't know.

16 MR. MILLER: Q. All right. Let's take that a
17 step at a time. During the time that you were a jobber
18 for Chevron and the firm was Pazin & Myers, Inc., when
19 you picked up gasoline from Chevron was it branded gas
20 or branded and unbranded?

21 A. Pick up --

22 MR. CORRELL: Object to the form of the
23 question.

24 THE WITNESS: I picked unbranded from Chevron
25 and unbranded from other entities.

Deposition of Richard Pazin / August 24, 2009

1 MR. MILLER: Q. Okay. And was Tosco refining
2 company one of the entities that you purchased unbranded
3 gasoline from?

4 A. Yes.

5 Q. Now, how did it work in terms of when Cardgas
6 was branded or not branded? Did they tell you as a
7 service station they wanted a Chevron blended gas or
8 what?

9 A. No, no, it was strictly price.

10 Q. Okay.

11 MR. CORRELL: I will object to the form of the
12 prior question.

13 MR. MILLER: Q. And you knew that from their
14 practice of discussing gasoline deliveries with them
15 directly?

16 A. I run the company, so I knew what the price was
17 for each oil company, so I would make the calls to get
18 it from -- if at all possible, I would get the cheapest
19 gas.

20 Q. Okay. So were you under --

21 A. The most inexpensive gas.

22 Q. Right. You had an understanding with the
23 cardlock gas station owners in Merced that they wanted
24 you to acquire the least expensive gas that was
25 available for delivery to their station at that time?

Deposition of Richard Pazin / August 24, 2009

1 A. Yes.

2 Q. And they wouldn't call you up and tell you who
3 to buy it from, you were making the decisions on what
4 was the least costly supplier at the time?

5 A. Unfortunately, yes.

6 Q. Okay. And you had to keep track of that all
7 the time anyway, correct?

8 A. I am a busy man, yeah.

9 Q. Did you have accounts that permitted you to
10 purchase gasoline from shippers other than Chevron and
11 Tosco? For example, did you have an account with New
12 West?

13 A. Yes.

14 Q. Did you have an account with Tesoro?

15 A. Yes.

16 Q. In addition to the four we have gone over,
17 Chevron, Tosco, Tesoro, and New West, did you have
18 accounts that allowed you to purchase gasoline products
19 from anyone else during the time that you have been
20 employed by your firm?

21 A. Well, we stated earlier ConocoPhillips.

22 Q. Okay.

23 A. Mobil. Back in the 80's.

24 Q. Okay.

25 A. British Petroleum in the 80's, and that's about

Deposition of Richard Pazin / August 24, 2009

1 it.

2 Q. Okay. And as best you can recall, you had the
3 right to purchase gasoline from Mobil, as the shipper of
4 record in the 80's, not the 90's and later, correct?

5 A. Correct.

6 Q. And is the same true for BP, 80's but not 90's
7 and later?

8 A. Best of my recollection is right in that area.

9 Q. All right. What about ConocoPhillips? During
10 what time period did you have arrangements to purchase
11 gasoline from them?

12 A. From the 80's until present.

13 Q. And during what period of time did you have
14 arrangements to purchase gasoline from New West?

15 A. Probably from the 90's on.

16 Q. Are they still in business?

17 A. Yes.

18 Q. And do you still have an account with them?

19 A. Yes.

20 Q. When did you first have an arrangement to
21 purchase gasoline products from Tesoro?

22 A. Early 90's.

23 Q. And are you still buying from them?

24 A. Yes.

25 Q. And has that been continuous?

Deposition of Richard Pazin / August 24, 2009

1 A. Yes.

2 Q. You mentioned that you went to the Kinder
3 Morgan terminal in Fresno, California to pick up
4 product. Was there more than one shipper of record who
5 you could pick up product from at Fresno, at that
6 terminal?

7 A. Yes..

8 Q. And whose products[#] could you pick up at that
9 terminal that you historically picked up there?

10 A. It was Chevron, ConocoPhillips, Tosco, and New
11 West.

12 Q. The Banta terminal near Tracy, California, is
13 that a Chevron terminal?

14 A. Yes.

15 Q. Is it a proprietary terminal? That is, you can
16 only get Chevron gasoline there, to your understanding?

17 A. Yes.

18 MR. CORRELL: Objection; calls for speculation.

19 MR. MILLER: Q. And has it always been a
20 Chevron terminal during your business relationship with
21 that particular facility?

22 A. Yes.

23 Q. Besides Fresno and the Banta terminal in Tracy,
24 were there other locations where you could pick up
25 Chevron gas?

Deposition of Richard Pazin / August 24, 2009

1 A. No.

2 Q. And the ST Services terminal in Stockton, whose
3 gasoline could you pick up there and did pick up there?

4 A. Tosco, Tesoro, New West.

5 MR. CORRELL: I am sorry. What terminal was
6 that again?

7 THE WITNESS: The Stockton terminal.

8 MR. CORRELL: Okay.

9 MR. MILLER: Q. Was there any location where
10 you could pick up New West products, besides the Fresno
11 and Stockton terminals?

12 A. No.

13 Q. Was there any location where you could pick up
14 Tesoro product, other than the Stockton terminal?

15 A. No.

16 Q. When BP came into the picture, where were you
17 getting their gasoline from? What terminal?

18 A. I believe that was Rough and Ready Island out
19 of Stockton.

20 Q. Okay. Let's finish Exhibit 6, please. I think
21 we made it to page 6. Is page 7 of Exhibit 6 an
22 electronic funds transfer notice that you would have
23 received from Tosco refining company by fax?

24 A. Yes.

25 Q. And this relates to a shipment from the

Deposition of Richard Pazin / August 24, 2009

1 contacted you?

2 A. To state the fact that something doesn't look
3 right in the spill bucket. You might want to take a
4 look at it. But that's where --

5 Q. Okay. And if they noticed a problem with a
6 spill bucket and you were contacted, what did you do
7 with that information?

8 A. I went out and checked it and had it repaired.

9 Q. Now, you had gasoline stations as customers
10 other than the Cardgas station in Merced?

11 A. Yes.

12 Q. Could you estimate roughly how many? I realize
13 it varies with time, but I am just trying to get a sense
14 of the order of magnitude that we are talking about.

15 A. Over the years, 8 to 10.

16 Q. And were some of those gas stations, in
17 addition to the Cardgas station, affiliated with your
18 family?

19 A. No.

20 Q. Were they independents, as opposed to branded
21 stations?

22 MR. CORRELL: Objection.

23 THE WITNESS: They were all different. We had
24 both.

25 MR. MILLER: Q. Were some of them Chevron

Deposition of Richard Pazin / August 24, 2009

1 stations?

2 A. Yes.

3 MR. CORRELL: Objection to form.

4 MR. MILLER: Q. And when I say Chevron
5 stations, I mean Chevron branded stations.

6 A. Yes.

7 Q. Okay. Were you in a position to repair a spill
8 bucket at a station you didn't own and your family
9 didn't own?

10 A. No.

11 Q. Were you in a position to repair or replace a
12 spill bucket at the Cardgas station in Merced, if there
13 was a problem with it?

14 A. Yes.

15 Q. Explain, please.

16 A. It was our site, so I would take care of it. I
17 would just call some company to fix it if there was an
18 issue.

19 Q. And do you recall what company or companies
20 were available to you to assist with a task like that?
21 That is, repairing and replacing a spill bucket,
22 inspecting it, whatever was required?

23 A. Shaw Maintenance out of Turlock.

24 Q. And how long have you had an account or
25 relationship with that firm? I need an estimate, I am

Deposition of Richard Pazin / August 24, 2009

1 STATE OF CALIFORNIA)
2 COUNTY OF STANISLAUS) ss.

3 I, ERIC L. JOHNSON, do hereby certify that I am a
4 licensed Certified Shorthand Reporter, duly qualified
5 and certified as such by the State of California;

6 That prior to being examined, the witness named in
7 the foregoing deposition was by me duly sworn to testify
8 to tell the truth, the whole truth, and nothing but the
9 truth;

10 That the said deposition was by me recorded
11 stenographically at the time and place herein mentioned;
12 and the foregoing pages constitute a full, true,
13 complete and correct record of the testimony given by
14 the said witness;

15 That I am a disinterested person, not being in any
16 way interested in the outcome of said action, or
17 connected with, nor related to any of the parties in
18 said action, or to their respective counsel, in any
19 manner whatsoever.

20
21 DATED: September 1, 2009

22
23 
24 Eric L. Johnson, CSR, RPR

25

EXHIBIT 48



Sep 15 2010
3:15PM

1 SHEPPARD MULLIN RICHTER & HAMPTON LLP
A Limited Liability Partnership
2 Including Professional Corporations
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3 WHITNEY JONES ROY, Cal. Bar No. 211541
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6

7 Attorneys for Defendant
EXXON MOBIL CORPORATION
8

9 SUPERIOR COURT OF THE STATE OF CALIFORNIA
10 FOR THE COUNTY OF MERCED
11

12 CITY OF MERCED,

13 Plaintiff,

14 v.

15 CHEVRON U.S.A., INC., SHELL OIL
COMPANY; EXXONMOBIL
16 CORPORATION; EXXON
CORPORATION; KINDER MORGAN
17 ENERGY PARTNERS L.P.; EQUILON
ENTERPRISES LLC; SFPP, L.P. and
18 DOES 1 through 200, inclusive,

19 Defendants.
20

Case No. 148451

*Assigned to the Honorable Carol K. Ash,
Department 3*

**SUPPLEMENTAL RESPONSES OF
DEFENDANT EXXON MOBIL
CORPORATION TO SPECIAL
INTERROGATORIES PROPOUNDED
BY PLAINTIFF CITY OF MERCED
(SET THREE)**

Complaint Filed: April 22, 2005

21 PROPOUNDING PARTY: PLAINTIFF CITY OF MERCED

22 RESPONDING PARTY: DEFENDANT EXXON MOBIL CORPORATION

23 SET NO.: THREE
24
25
26
27
28

SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 23:

Subject to and without waiver of the foregoing objections and in addition to the information previously provided in response to this special interrogatory, ExxonMobil responds as follows: ExxonMobil understands the term "jobber" to refer to third party distributors supplied by Exxon, Mobil or ExxonMobil who then supplied retail stations pursuant to agreements with those retail stations.

Pre-merger Exxon supplied the following jobbers, whose contracts with Exxon were transferred to Valero effective May 15, 2000, with gasoline that may have contained MTBE at the terminals identified in ExxonMobil's responses and supplemental responses to Special Interrogatory Nos. 24 and 25: Big Oil & Tire Co. Inc. (1997, 1999); C P Phelps Inc. (1992-1999); Curtesy Oil Co. (1993-1999); Dwelle Bros. (1992, 1996); E.R. Vine & Sons Inc. (1992-2000); El Monte Gas Inc. (1993-2000); Inter-City Petr. Marketers Inc. (1992-2000); Jack Griggs Inc. (1992-1999); Jaco Oil Co. Inc. (1992-2000); Jeffries Bros. Inc. (1994); Nella Oil (1992-2000); New West Petroleum (1995-2000); Olympian Oil Co. (1992, 1994-1999); Petroleum Sales Inc. (1994-2000); Redding Oil Company (1993); River City Petroleum Inc. (1996-2000); Robert V. Jensen, Inc. (1999); Selby Petroleum, Inc. (1996-2000); Silveira Petroleum Inc. (1993-2000); Stockton Petroleum Co. (1992-1999); Sturdy Oil Co. (1993-2000); Time Oil Co. (1993-2000); Tower Energy Group (1992-2000); Van De Pol Enterprises, Inc. (1998-2000); and W P Davies Oil Co. (1992-1998). Additionally, pre-merger Exxon supplied Redwood Oil Co. (1996, 1998) at one or more terminals identified in ExxonMobil's responses and supplemental responses to Special Interrogatory Nos. 24 and 25. ExxonMobil is unable to identify any other jobbers, if they exist, from the database records.

Pre-merger Mobil supplied the following jobbers (listed by billing name) during the listed dates from terminals identified in ExxonMobil's response and supplemental response to Interrogatory No. 25: Golden Gate Petro (1987-1989); Rose and Ramos, Inc. (1987-1989); John S. Pazin (1987-1989); Redwood Oil Co. (1986-1989); Gary V. Burrows Inc. (1986-1987); California Fuels (1986-1989); C M Codorniz & T Conway (1986-1989);

1 (a) Vague and ambiguous, particularly with respect to the term "MERCED
2 STATIONS," which is capitalized but not defined.

3 (b) Vague and ambiguous, particularly with respect to interrogatory's failure to
4 identify the terminals that are the subject of the interrogatory.

5 Subject to and without waiving the foregoing objections, ExxonMobil responds as
6 follows: Pre-merger Exxon ceased blending MTBE into gasoline at the Benicia refinery
7 on or about May 15, 2000. ExxonMobil is unable to provide a further response to this
8 interrogatory because the interrogatory fails to define the "MERCED STATIONS" or
9 terminals about which Plaintiff seeks information. ExxonMobil is also unable to provide a
10 further response to this interrogatory because it calls for improper and unduly burdensome
11 "top down" discovery that imposes an undue burden on ExxonMobil to search for
12 information that is unlikely to yield relevant or admissible evidence given the nature of the
13 request.

14 **SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 35:**

15 Subject to and without waiver of the foregoing objections and in addition to the
16 information previously provided in response to this special interrogatory, ExxonMobil
17 responds as follows: Understanding the term "MERCED STATIONS" to refer to the
18 defined term "SITE," ExxonMobil responds that Exxon did not have any direct supply
19 agreements with any MERCED STATION during the relevant time period, but did have a
20 supply agreement with Curtesy Oil, who supplied the station at 1720 R Street. The
21 delivery records in Exhibit 2-B indicate that Exxon last supplied gasoline containing
22 MTBE to Curtesy Oil on June 1, 1999. Exxon ceased blending MTBE into gasoline at the
23 Benicia refinery on or about May 15, 2000.

24 Dated: September 15, 2010

25 SHEPPARD, MULLIN, RICHTER & HAMPTON LLP

26 By /s/ Alison N. Kleaver

27 ALISON N. KLEAVER

Attorneys for Defendant

28 EXXON MOBIL CORPORATION

PROOF OF SERVICE VIA LEXISNEXIS FILE & SERVE

City of Merced v. Chevron U.S.A., Inc., et al.

Superior Court – County of Merced Case No. 148451

I, Jennifer B. Rodriguez, the undersigned, hereby declare:

1. I am employed in the County of Los Angeles, State of California. I am over the age of 18 years and am not a party to the within action. I am employed by Sheppard, Mullin, Richter & Hampton LLP in the City of Los Angeles, State of California. My business address is 333 South Hope Street, 48th Floor, Los Angeles, California 90071.

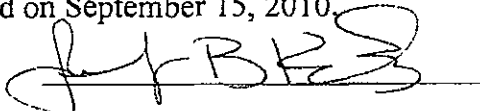
2. On September 15, 2010, I served a copy of the attached document titled: **SUPPLEMENTAL RESPONSES OF DEFENDANT EXXON MOBIL CORPORATION TO SPECIAL INTERROGATORIES PROPOUNDED BY PLAINTIFF CITY OF MERCED (SET THREE)** on all parties hereto by:

a. X Posting it directly to the LexisNexis File & Serve website,
www.lexisnexis.com/fileandserve, at approximately 3:15 p.m. Pacific Time

b. _____ Sending it via facsimile transmission to LexisNexis File & Serve
at approximately _____ a.m./p.m. Pacific Time

c. _____ Placing it in an addressed, sealed envelope clearly labeled to LexisNexis File &
Serve and causing it to be deposited with an overnight mail or courier service for
delivery the next business day.

I declare under penalty under the laws of the State of California that the foregoing is true and correct. Executed on September 15, 2010.


Jennifer B. Rodriguez